MacWEEK

02.19.96 | *The Newsweekly for Macintosh Managers* | VOLUME 10 NUMBER 7

High anxiety

OpenDoc developers counter fears with optimism

See Solutions, Page 31

ClickWorks, Scitex's foray into multimedia territory, will use a Finder-like metaphor for organizing media and defining behaviors.

Scitex to venture into multimedia authoring

By Kelly Ryer

The next object-oriented multimedia-authoring tool may come from an unlikely source. Its developer, Pitango-MPS, is an Israeli division of Scitex Corp. Ltd., known primarily for its digital pre-press technology.

Called ClickWorks, the new application is expected to ship in the fourth quarter for less than $1,000. The software, which Scitex will demonstrate at next week's Seybold Seminars Boston 96, will be aimed at publishers looking to repurpose printed materials, the company said.

ClickWorks will use an object-oriented interface to create multi-

See Scitex, Page 62

NEWS ANALYSIS

VRML battle heats up

By Kelly Ryer and James Staten

Netscape Communications Corp. and Silicon Graphics Inc. last week proposed bringing 3-D motion to the Internet in a way that could leave Apple and Microsoft Corp. out in the cold.

The proposal, "Moving Worlds," was presented to the VRML Architecture Group (VAG), last week. The plan, which details processes for animating Virtual Reality Modeling Language (VRML) static models, is supported by more than 50 companies, including Adobe Systems Inc., Intervista Software Inc., Macromedia Inc. and Sony Corp.

The move by Netscape and SGI, both of Mountain View, Calif., has been lauded by the VRML community, including some members of the VAG stan-

See VRML, Page 62

NEWSPAPER SECOND CLASS

OpenDoc hitting stride

ClarisWorks to be a container in '96

By Clifford Colby

With OpenDoc for the Mac now available, Apple has begun to sketch its next moves for the component-software architecture. Claris Corp. this week will unveil an OpenDoc-enabled version of ClarisWorks, sources said, while Apple is at work on several OpenDoc-related initiatives, including the final version of Cyberdog.

Boarding the OpenDoc bus, Claris Corp. said it plans to unveil this week its first application supporting the component technology.

Sources said the company will announce at this week's Macworld Expo in Tokyo that it plans to add container support to ClarisWorks by the end of the year. ClarisWorks will reportedly not be broken up into components but instead will gain the ability to support embedded OpenDoc parts.

"An OpenDoc version of ClarisWorks would be a major boost for the architecture," an OpenDoc developer said. "This would allow third-party developers to work with ClarisWorks. It would be great to plug parts into something we all understand."

Claris declined to comment on

See OpenDoc, Page 62

OpenDoc pieces lining up

January	**OpenDoc 1.0 released**
February	**Cyberdog beta released; OpenDoc for AIX beta released**
March	**OpenDoc 1.1 due**
Spring	**OpenDoc to be bundled with Apple CPUs and OS; will include base parts, such as text, graphics and drawing editors**
	Cyberdog 1.0 due; will include viewers for key OS extensions
	OpenDoc for AIX due
	OpenDoc for Windows 95 and Windows NT beta due
Summer	**OpenDoc for Windows 95, Windows NT due**
Winter	**ClarisWorks to become OpenDoc container**
1997	**Apple to offer OpenDoc-based OS layers for specific markets**
	Apple to integrate OpenDoc into Copland

Minolta copier to widen scope of color output

By Kristin Balleisen

Hoping to break into the color copier big leagues, Minolta Corp. will spotlight an aggressively priced color copier that doubles as a full-bleed tabloid-size printer at next week's Seybold Seminars Boston 96.

Pricing for the CF900, due to ship in May, will start at $24,995. The device will be the first color

See Minolta, Page 64

Minolta's CF900 color copier will do double duty as a tabloid-size printer.

First Java tool for Mac, Roaster 1, a harsh brew

By Dave Taylor

Beta Test

For Macintosh developers eager to join in the fun with Sun Microsystems Inc.'s Java, it's been a bleak winter, with neither a Java-enabled browser nor a development environment available on the Mac platform. But with the recent release of Natural Intelligence Inc.'s Roaster and last week's release of JavaSoft's Java development kit, Mac developers are finally starting to get their hands warm.

We took the Roaster Developer Release 1 for a spin and found it better than using a Windows-based development kit, but it sports a clunky interface that only a hard-core programmer could love. Since our examination, Natural Intelligence posted on-line a 1.1 updater that the company said fixes many of the problems we found in the initial release. (For a list of fixes, see http://www.natural.com/pages/products/roaster/updatenoterdr1.html.)

Nuts and bolts

Roaster requires a Power Mac with 30 Mbytes of free disk space and at least 8 Mbytes of available RAM. Natural Intelligence is offering a Roaster subscription plan, in which a $299 purchase

See Roaster, Page 64

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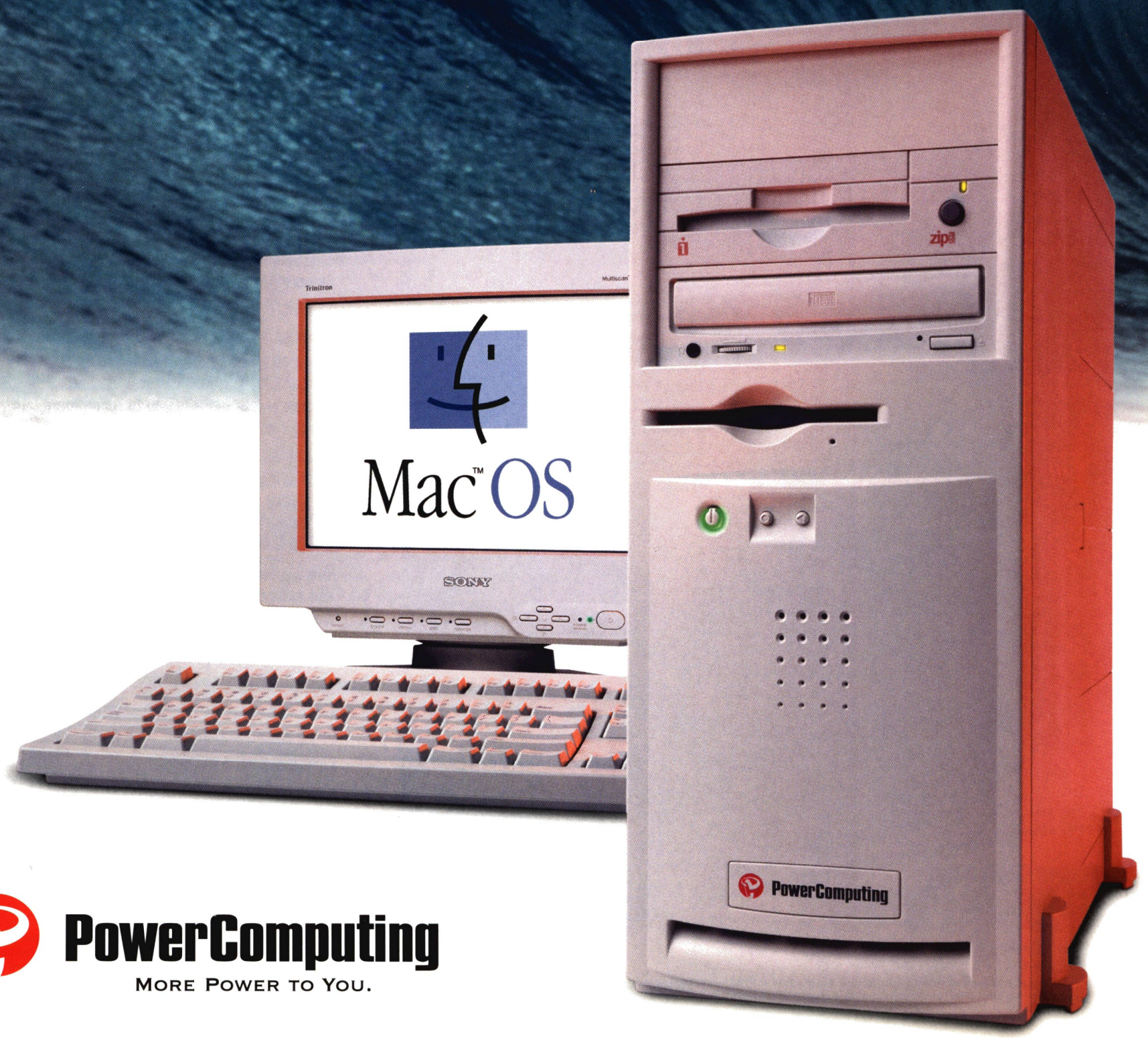

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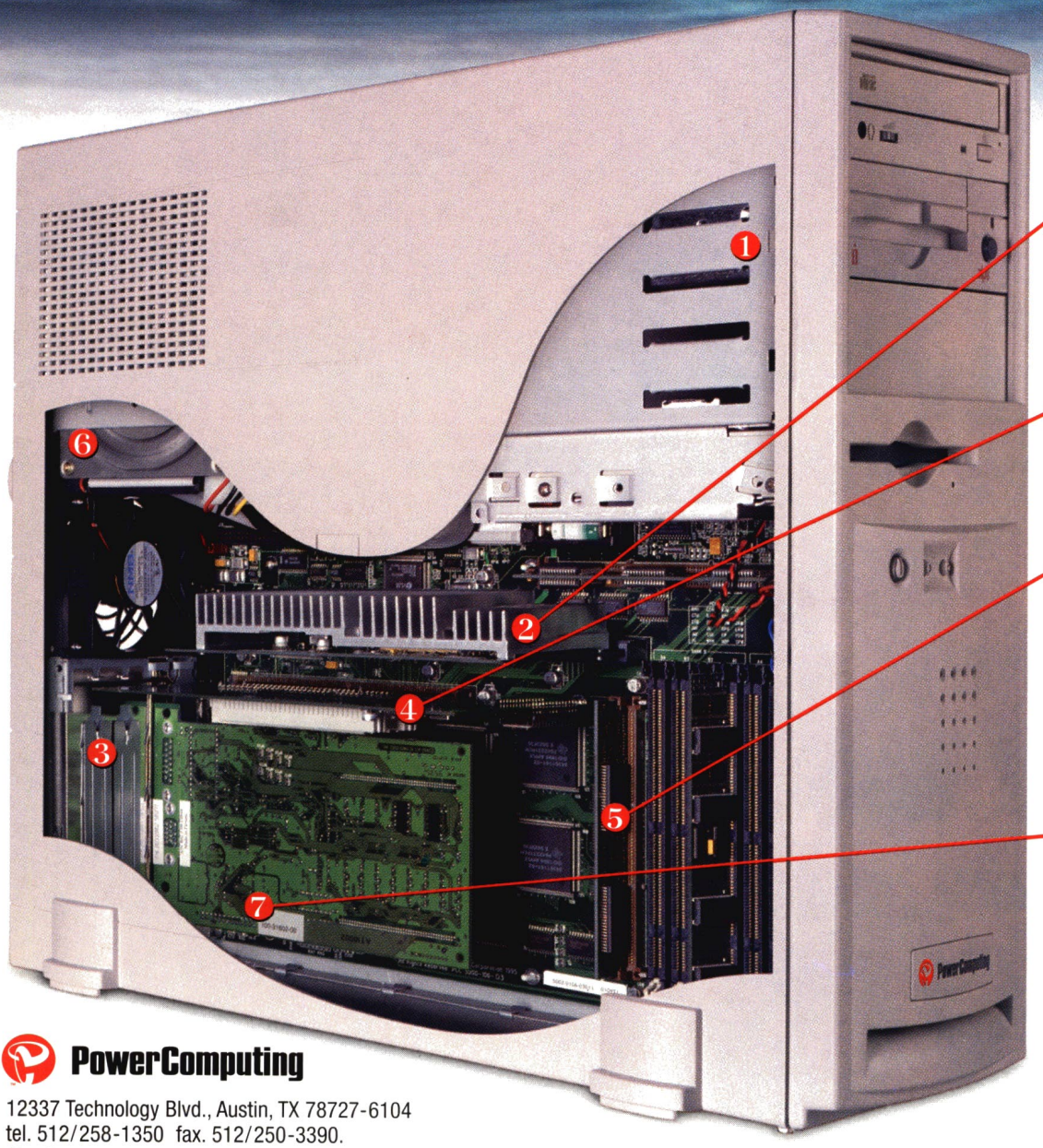

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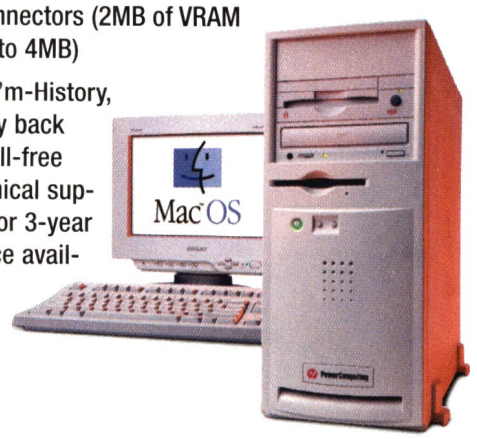

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MACUSER EDITORS' CHOICE AWARD 1995 FINALIST

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PC Magazine- Aug 95

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Infoworld- June 95

"A machine we love even more than the PowerMac 7500 - the PowerWave 604"
Macworld- Feb 96

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02.19.96 VOLUME 10 NUMBER 7

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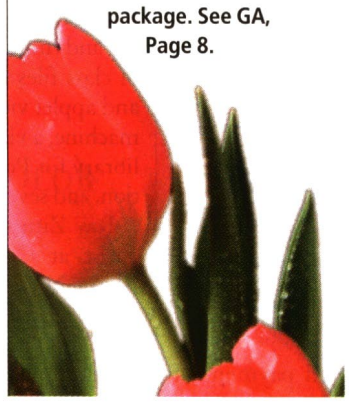
Flights of fancy: Microspot's 3D World is fun and easy to use, but not very useful. See Reviews, Page 23.



Seeing red — and blue and green — is a lot easier with Monaco's color-calibration package. See GA, Page 8.

It's a struggle dealing with quality problems on Macs. See MacInTouch, Page 31.

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Microspot USA 3D World: You get what you pay for • Farallon Timbuktu Pro 2.0 adds ARA, IPX support • Data Description DataDesk 5.0 a powerful statistics package

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Developers have high hopes for OpenDoc technology, but worry that Apple and Mac vendors won't support it through lean times.

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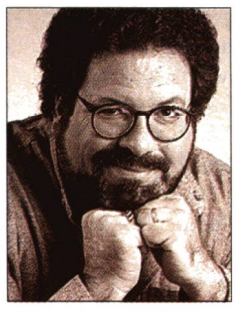
MACWEEK INSIDER DAVID MORGENSTERN

Toying with Apple

Admiral Gilbert Amelio had been at the helm for only a week when Apple floated a new toy boat. Was it a hot new flavor of Mac? Or maybe it was a feline companion for Cyberdog? Nope, it was branding.

This new idea was not some digitized variation on the latest tribalist twist from fashionable twentysomethings, but the lending of Apple's "character" to other companies' products. The Cupertino, Calif., computer maker will stamp its name and logo on Apple for Kids, a forthcoming line of edutainment devices for preschoolers. The whole kit and caboodle will be developed and marketed by Toy Biz Inc. of New York (see story, Page 4).



Apple's history of standing firm in the face of adversity gives it the bona fides to go toe to toe with branding stars such as basketball great Michael Jordan, legend-before-her-time Liz Taylor and the cast of "Beverly Hills, 90210." They have all moved from mere mortal status to join the pantheon of consumer symbols for rent.

While some may look down their noses at this plan, it has the potential to bolster Apple's bottom line. Unlike computer and PDA products, Apple for Kids will not eat up much of the company's resources, other than the odd legal expense. Not even cloning is as cheap a means for Apple to spread its name throughout civilization.

Unfortunately, any dividends from this branding deal are still fairly far off — the products are not expected to hit the streets for more than a year.

Branding will let Apple move closer to a cradle-to-grave strategy, impressing its multicolored logo more firmly into the next generation's consciousness. Instead of pounding on mom and dad's Mac keyboard and mouse, hopefully the tots will bang away on their own child-hardened technological gizmos. Apple wants to make sure that when children start using real computers they will steer their parents toward the Macintosh or Pippin devices.

The scheme leverages Apple's reputation as the industry leader in both computer usability and education. Would consumers take seriously "My First IBM"? For example, one of IBM Corp.'s holiday print ads for its Aptiva line showed Santa Claus sitting by the fire, forced to enter Unix grep commands to search his database for good children. Obviously, Big Blue still doesn't get it.

Is the world ready for a brisk morning spritz of Apple cologne?

Apple has some small-scale experience with branding: It sells T-shirts and tchotchkes from its company store. Most mainland Mac users are unaware that the company also runs clothing boutiques in Tokyo. Several years ago, I picked up both Apple and Microsoft hand towels at the Tokyo Macworld Expo.

However, the branding game is not a risk-free proposition. If the toys or other products are not quality efforts, Apple's luster could be diminished even further in the public's mind. This could hurt all branded products — Macintoshes and toys. The company will have to keep a watchful eye on the efforts of its partners.

In addition, the masses can quickly grow weary of a popular face, as the cast of the TV show "Friends" reportedly discovered recently.

Given multiple reports of its demise in the media, Apple can certainly use greater visibility, as long as that visibility leaves consumers with a sweet, not sour, taste for Apple.

While the techno toy is the first step, there are plenty of other opportunities for Apple's logo.

Is the world ready for a brisk morning spritz of Apple cologne? Well, we know Bill Gates won't wear it no matter what, but here's my humble suggestion for ad copy that can sell: "A breath of a spring orchard, a splash of silicon spray with a hint of polyvinyl chloride." Make room on the cosmetic counter, Liz, Apple's here.

The Talmud says, "If you must hang, choose a high tree." That seems like good advice for Apple branding. Go for it. □

David Morgenstern is MacWEEK associate editor/news. He invites feedback at david_morgenstern@macweek.com.

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Apple to play in toy biz

Licenses name for pre-K ELAs

By Jon Swartz

After years of being derisively labeled the "toy maker" among personal computer vendors, Apple is taking the plunge into the toy market.

The company last week said it has licensed Toy Biz Inc. to create the new "Apple for Kids" line of "electronic learning aids." The so-called ELAs will be designed, built and marketed by Toy Biz, a New York-based company that has similar deals with Marvel Entertainment Group, Gerber Products Co. and Jim Henson Productions.

The first crop of toys, due next summer for 2- to 6-year-old children, will cost less than $100 each.

Although Apple won't invest any money and will have no role in creating the toys — other than exercising veto power to make sure they meet its quality standards — Apple will receive a payment for every toy sold.

"[The deal] is an extension of Apple's R&D and distribution," said Jon Holtzman, Apple director of entertainment marketing. "We get paid good royalties while gaining expertise in a business we don't know much about."

Holtzman declined to comment on what type of toys are being developed or if Apple plans to sign up additional brand licensees.

Toy Biz Creative Director Avi Arad said Apple's prowess in the K-12 and home markets makes it the premiere brand name for Toy Biz's initial foray in the burgeoning ELA category, pegged at $18.7 billion by the Toy Manufacturing Association in New York.

"Our strength is to take well-known brands and build them into multimillion-dollar, category-specific toy lines," Arad said. "The Apple license offers us an opportunity to build an important brand of learning products and bring the Apple franchise into the youth markets." □

SiteMill URL checker ships

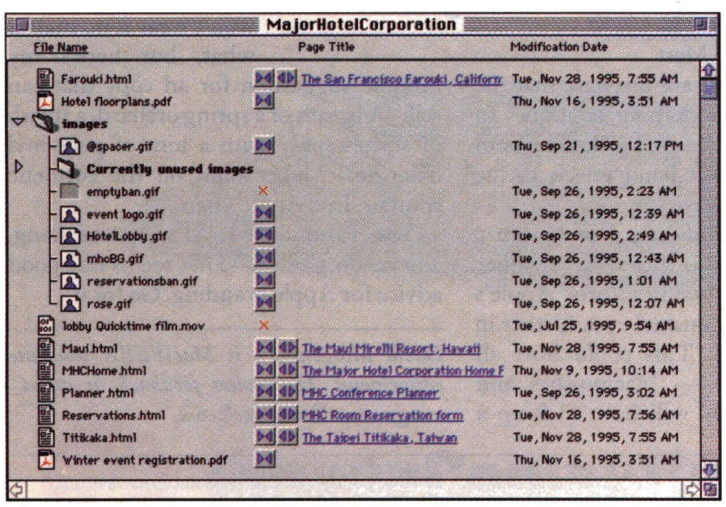
By James Staten

Webmasters perplexed by bad links and missing URLs can now diagnose and repair these problems quickly using Adobe Systems Inc.'s SiteMill, which shipped last week.

SiteMill, $595, is a Web site-management tool that lets users create and edit Web pages and view an entire site to see page links. The program alerts Webmasters to dead links or URLs (uniform resource locators) that do not point to anything and assists the user in reassigning the links. The program also alerts users to pages that are not referenced by other pages on the site and checks links made to resources outside of the main site.

For page editing, SiteMill incorporates the features of PageMill, Adobe's WYSIWYG HTML editor, which is sold separately for $149.

Adobe Systems Inc. of Mountain View, Calif., can be reached at (415) 961-4400 or (800) 411-8657; fax (415) 962-2930; info@adobe.com; http://www.adobe.com. □



Dead on the Web: Adobe's SiteMill lets Webmasters see at a glance which pages are linked to each other and which are left hanging.

Apple saves and splurges

By Jon Swartz

Apple has scotched payment of its quarterly dividend because of money problems. But that hasn't stopped it from heaping a generous financial package on Gilbert Amelio, its new chairman and CEO.

According to documents filed with the Securities and Exchange Commission last week, Apple anted up a five-year employment agreement valued at $990,000 a year in annual salary, a $200,000 signing bonus and a $5 million loan. The principle deal will net Amelio $10.15 million, but that figure could balloon to more than $50 million based on the performance of Apple stock and revenues.

On top of that, Apple has agreed to lease Amelio's personal plane for business trips.

Meanwhile, the company — which lost $69 million during its first quarter and is girding for a second-quarter loss that some analysts peg at $150 million — suspended its first-quarter dividend and doesn't expect to declare one "in the near future," the SEC filing said.

Apple said gross margins will continue to decline this spring because of pricing pressures wrought by intense competition in the personal computer industry. The company took a $125 million restructuring charge on Jan. 17.

Apple announced a quarterly dividend of 12 cents per share on Dec. 15. □

Java tool kit for Mac gets beta release

By James Staten

JavaSoft finally gave Mac developers its applet-creation technology last week by delivering a beta of its Java development kit for Macs.

The software development kit, which runs on both 680x0 and PowerPC-based Macs, can be found at http://www.javasoft.com/JDK-1.0/index.html. JavaSoft said the kit includes the Java Byte Code Compiler, AppletViewer for testing and running applets, a database of class files used in the compiler and applet viewer, the Java virtual machine, a virtual machine shared library for PowerPC, documentation, and several sample applets.

Ray Zimmerman, visiting scientist at Cornell University in Ithaca, N.Y., said he is excited that Java is finally available for the Mac. It's "more complete" than Natural Intelligence Inc.'s Roaster Java development environment, he said (see Beta Test, Page 1). "The networking stuff is in there. For example, the AppletViewer has an Open URL command so you can view pages with Java applets in them," he said.

Zimmerman added, however, that Roaster is currently a more robust development environment. "There's no debugger, editor or project manager in [JavaSoft's] kit."

Mac users eager to see Java applets in action will have to download the development kit, since no Java-enabled browsers are available for the platform yet. JavaSoft said it is working on a version of its HotJava browser that will run atop the newly released virtual machine for the Mac. No release date for the product has been set.

JavaSoft, an operating company of Sun Microsystems Inc., of Palo Alto, Calif., can be reached at (415) 960-1300 or (800) 626-5282; fax (415) 473-7104; java@java.sun.com. □

Iterated squeezes images for quick Web downloads

By Matthew Rothenberg

New compression technology from Iterated Systems Inc. promises to let Web users grab high-resolution graphics and video sequences more quickly.

Fractal Imager and Fractal Viewer draw on Iterated's fractal-compression technology, which converts images into an arithmetic formula. The company said its technique offers greater compression than competing technologies that rely on pixel-based images.

Fractal Imager, due in a Mac version by June, compresses files in the company's Fractal Image Format (FIF) from formats such as JPEG, TIFF, EPS, GIF, PICT and Adobe Photoshop. According to Iterated, the software can compress a 2-Mbyte TIFF image to 40 Kbytes.

The software will be $39 for on-line registration or $69 for a package containing a CD-ROM and a printed manual.

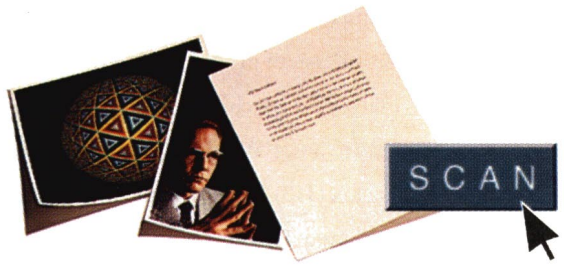
The company in March will offer Fractal Viewer, a free plug-in for Netscape Navigator 2.0 that lets Web clients open and manipulate FIF images. When users open a page with an FIF graphic, the plug-in immediately displays a thumbnail of the image that grows progressively larger as more image data is downloaded.

Once an image is completely downloaded, users are able to zoom in on or blow up an image at any size without pixelization, Iterated said. The technology also lets users preview an image at a specified resolution without downloading the entire image.

In addition, Iterated said it is developing a Mac version of CoolFusion, its video-streaming Navigator plug-in. The software, due in the second quarter, will let users watch animation and video sequences and listen to audio as files are being received.

Iterated Systems Inc. of Atlanta can be reached at (404) 264-8000 or (800) 437-2285; fax (404) 264-8300; info@iterated.com; http://www.iterated.com. □

The pen may be mightier than the sword, but the Scanner blows them both away.



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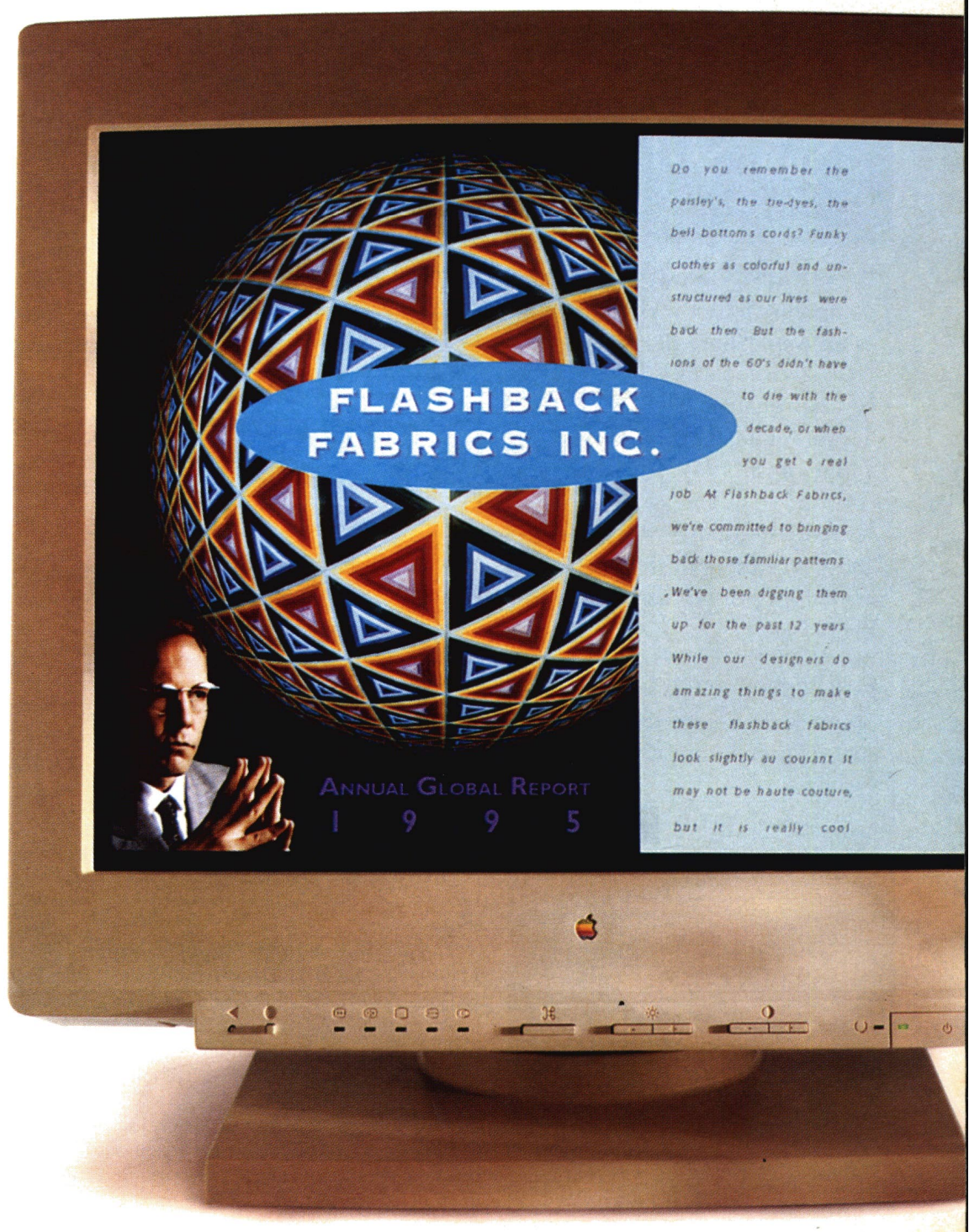
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Do you remember the paisley's, the tie-dyes, the bell bottoms cords? Funky clothes as colorful and unstructured as our lives were back then. But the fashions of the 60's didn't have to die with the decade, or when you get a real job. At Flashback Fabrics, we're committed to bringing back those familiar patterns. We've been digging them up for the past 12 years. While our designers do amazing things to make these flashback fabrics look slightly au courant it may not be haute couture, but it is really cool

MacUser RATED 3½ OCTOBER 1995

The ES-1000C comes complete with Xerox Textbridge OCR and Adobe Photoshop LE software so you can start scanning immediately.

YOU'VE GOT TO SEE IT IN EPSON COLOR.™

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Dominion app masters docs

By Carolyn Said

Stacking up a solution to help small businesses manage reams of paper, Dominion Software Inc. in April will deliver WorkingPapers, a document-imaging system.

WorkingPapers will let users scan documents, perform OCR, organize documents into collections, search documents and share them via any AppleTalk Filing Protocol-compliant server.

The program's OCR capabilities, licensed from Mimetics Corp. of Chatenay-Malabry, France, will allow for either batch or individual document recognition.

Dominion said its collections style will allow users to catalog files on off-line volumes. Files can be searched by name, location, date or any user-determined category.

For documents on a mounted volume, the software will offer both full-text and approximate text search. Approximate text searching, which users can adjust to anywhere from 50 percent to 100 percent accuracy, will minimize the need for OCR cleanup, Dominion said, because it will be able to find words even when they are misspelled.

A page thumbnails feature will provide quick access to any page in a document. Using QuickTime JPEG compression, the software will reduce images to about one-tenth of their original size.

Andras Riedlmayer, bibliographer at the Fine Arts Library at Harvard University in Cambridge, Mass., has been using a beta version of WorkingPapers to scan and archive hundreds of documents about destroyed institutions in Bosnia. "It presents us a very broad range of flexibility," he said. "You can add as much or as little annotation as you wish; you can group documents in collections and even before you do keyword searching you have ready groupings that are easier to examine."

The system will support scanners from many manufacturers, including Fujitsu Computer Products of America Inc., Hewlett-Packard Co., Microtek Lab Inc. and Ricoh Corp.; it will also come standard with an Adobe Photoshop plug-in as well as Twain-compliant scanner modules.

For three months after it ships, WorkingPapers will cost $199; thereafter it will be priced at $299.

Dominion Software Inc. of Newton, Mass., can be reached at (617) 332-1144 or (800) 762-7633; fax (617) 332-5145; dominion@world.std.com; http://www.triplesoft.com/dominion/. □

INTEGRATE MACINTOSHES – with – Sun/SGI/HP

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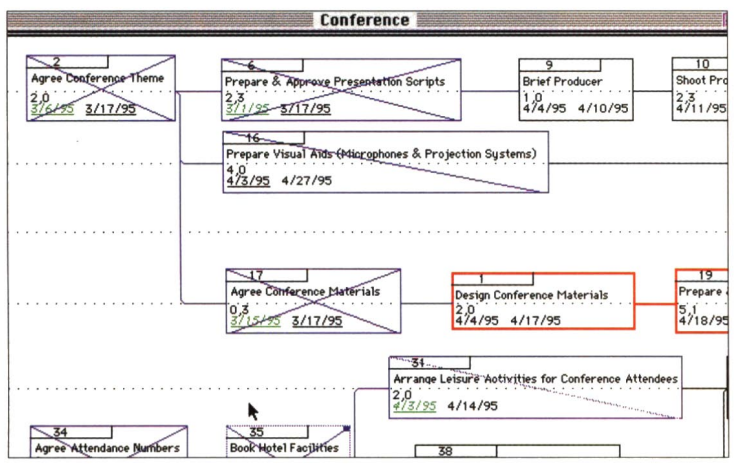


In addition to Power Mac-native speeds, Micro Planner Manager 1.4.1 saves users time spent in data entry by advancing tasks automatically.

Micro Planning updates apps

By Jon Swartz

Micro Planning International Inc. this month updated its project-management software lines.

The company said $695 Micro Planner Manager 1.4.1 and $1,995 Micro Planner X-Pert 2.4.1 use native PowerPC code to boost performance. A resource analysis that previously took six minutes on a Quadra 800 now takes one and a half minutes on a Power Mac 6100.

The new versions also optimize project maintenance with an Auto Progressing function, which can reduce data entry up to 66 percent; users now need to update progress information only for tasks that are off schedule.

"[The updates] give me a flexibility I didn't have before," said Dennis Hardle, owner of Hardle & Co., a consulting firm based in Mill Valley, Calif. He said he appreciated the new selective archiving feature that allows modifications to long-range plans without significantly altering the base lines. "I can add or subtract projects to my overall plan, or I can change the time frame on certain projects," Hardle said.

The updates can perform time-analysis calculations automatically or as background tasks.

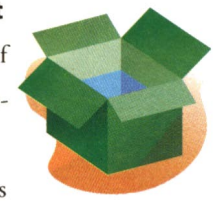
Upgrades to Micro Planner Manager 1.4.1 and Micro Planner X-Pert 2.4.1 cost $149 and $395, respectively.

Micro Planning International Inc. of Denver can be reached at (303) 757-2216 or (800) 852-7526; fax (303) 757-2047; sales@microplanning.com. □

For the record

The 01.29.96 story on VocalTec Inc.'s Internet Phone (Page 16) listed incorrect addresses. They are info@vocaltec.com and http://www.vocaltec.com.

STORAGE BEAT



FWB hammers out update. FWB Inc. of Menlo Park, Calif., recently shipped a free software update for its high-performance RAID Level 5 systems.

Version 1.1 of FWB's SledgeHammer•FT software now offers remote monitoring as well as striping and mirroring. It can also notify managers of system problems via PowerTalk e-mail or Ex Machina Inc.'s Notify! paging software, FWB said. Phone (415) 833-4616; fax (415) 833-4655; sales@fwb.com; http://www.fwb.com.

Full-spectrum DAT. Direct Connections of Eden Prairie, Minn., recently released a Spectra Logic DAT jukebox.

Based on the Spectra 4000/20, the $8,599 system uses a single-drive mechanism and can hold up to 200 Mbytes of compressed data on 20 Digital Data Storage-2 cassettes, Direct said. It comes with Dantz Development Corp.'s Retrospect Remote backup software. Phone (612) 937-6283 or (800) 572-4305; fax (612) 937-6285.

Storage bits and bytes. Unveiling an OEM technology for partisan partitions, **Software Architects Inc.** of Bothell, Wash., recently debuted a floppy divided with both Mac and Windows partitions. The disk shows Mac users a demo for its DOS Mounter 95 utility, while Windows users are presented its Here & Now installer. ... Boosting its share of the drive market, OEM **Seagate Technology Inc.** of Scotts Valley, Calif., this month put the final touches on its buyout of **Conner Peripherals Inc.** of San Jose, Calif. ... Two storage vendors recently opened Web sites. Tape drive and jukebox maker **Advanced Digital Information Corp.** of Redmond, Wash., is now at http://www.adic.com. Maitland, Fla.-based RAID-hardware developer **Distributed Processing Technology Corp.** is at http://www.dpt.com.

— By David Morgenstern

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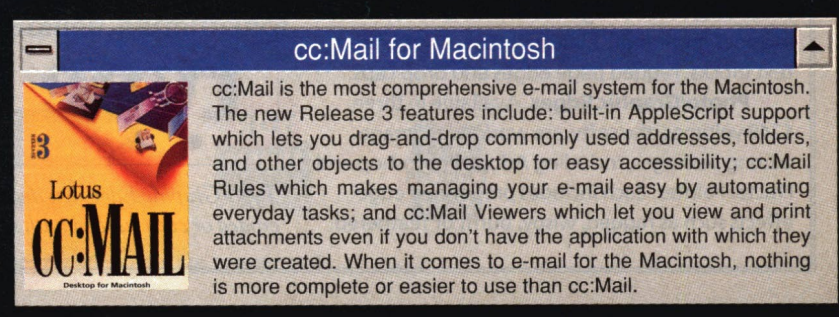
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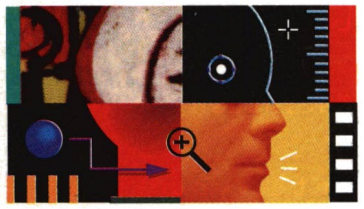


GA

XRES PUMPS UP

Macromedia Inc. this week shipped xRes 2.0, which adds new brushes and file formats. Its street price will be $489.

Navigator modules speed Web multimedia

Plug-ins enable animation, sound

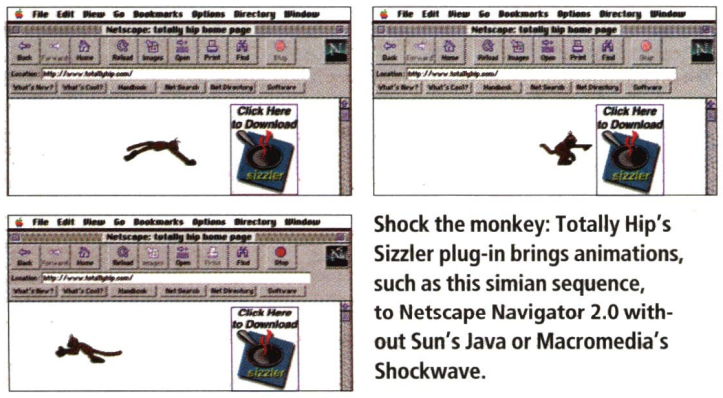
By James Staten

Netscape Navigator 2.0's plug-in architecture has given developers an important new channel for distributing their technology, and these third parties' Internet efforts promise to accelerate innovation in the multimedia market at large.

"In the past few months, Netscape Navigator has become supercharged," said Neil McManus, executive editor of Digital Media, a Seybold publication based in San Francisco.

The plug-ins available now for the Mac let users view compound documents, watch QuickTime movies and animation files, and listen to streaming audio. In the coming months, users will be able to enter multimedia 3-D worlds, view Adobe Acrobat files, and download and manipulate more-detailed but smaller images.

This plug-in system lets developers put their latest innovations into the hands of thousands of users for little cost. The challenge, however, is to convince Webmasters to adopt their competing technologies for their sites.



Shock the monkey: Totally Hip's Sizzler plug-in brings animations, such as this simian sequence, to Netscape Navigator 2.0 without Sun's Java or Macromedia's Shockwave.

Analysts said the first war may come in image compression. Johnson-Grace Co., Iterated Systems (see story, Page 4) and Carberry Technology are among a growing number of companies using Netscape Communications Corp.'s plug-in architecture to distribute competing graphics compressor-decompressors (codecs). All promise better compression than traditional JPEG or GIF file formats but require Webmasters to use proprietary compression engines.

"You have to look at what substantial benefits these codecs provide," said Robert Davis, vice president of marketing and business development for Atlanta-based Iterated. "Do they offer greater detail, the ability to zoom in on the image or pan around in it?

"Ultimately, Webmasters will decide that different methods fit

See Plug-ins, Page 10

Monaco tones up color management

By Matthew Rothenberg

Monaco Systems Inc. in January delivered a new suite of color-calibration tools that support ColorSync 2.0.

MonacoMatch, available now for $7,995, lets users create device profiles for ColorSync, Apple's system-level color-management technology.

The MonacoMatch package comprises:

- **MonacoColor 2.0**, a new version of the company's scan-enhancement plug-in for Adobe Photoshop or compatible applications. The company said Version 2.0 features a larger preview window and enhanced unsharp masking capabilities. MonacoColor sells separately for $895.
- **MonacoExpert**, a software plug-in that lets Photoshop users adjust individual colors in an image. Users can define color ranges and reference colors and select colors by hue, saturation or brightness as well as via a color wheel, slider or numerical values. The software lets users select end points for highlights and shadows and alter the sampling radius of the plug-in's eyedropper tool.

See Monaco, Page 10

Thinking big: The MonacoColor 2.0 component of Monaco's MonacoMatch suite includes a larger preview window and enhanced unsharp masking capabilities.

Auto F/X packages edge into graphics, video

By Carolyn Said

Auto F/X Corp. wants to help designers get an edge on the competition. The company offers an array of tools that add special effects to graphics and video images.

Current packages in the company's Edge Effects line include:

- **Video/Graphic Edges Vol. I**. Priced at $249, the software works with Adobe After Effects and Premiere as well as Avid VideoShop. Containing alpha channel and blue-screen keys for edge masking, it lets users add more than 750 edge effects to video, such as semitransparent, deckled or torn.
- **Page/Edges**. The $249.95 package works with layout or illustration software, including Macromedia FreeHand, Adobe PageMaker and QuarkXPress. It includes more than 1,000 effects, such as edged text blocks, ragged page edges and drop caps.
- **Photo/Graphic Edges**. Available in three $249 volumes, the software works with image-editing packages, including Adobe Photoshop and Fractal Painter. Each includes predefined edge effects such as ragged, wispy, burnt or feathered.
- **Typo/Graphic Edges**. The $199 software, which works with Photoshop, offers more than 10,000 different effects to make type and graphics look weathered, edged, eroded, gritty or chiseled, for example. It comes with modules for applying textures and shadows as well as building clipping paths.

In addition, Auto F/X is readying a new line of effects modules for Photoshop that it described as "interactive special-effects macros." Priced at $99 each, the modules will ship every couple of weeks over the next few months, the company said.

Auto F/X Corp. of Alton Bay, N.H., can be reached at (603) 875-4400 or (800) 839-2008; fax (603) 875-4404; http://www.autofx.com.

Typo/Graphic Edges lets designers make type look roughened, eroded or even rubbed with sandpaper.

New Font Box utility fixes typeface conflicts

By Kelly Ryer

That innocent-looking Fonts folder can hide a variety of evils. Over time, fonts can become orphaned or corrupted, and duplicate fonts can cause problems or waste hard drive space.

Startup Insider Software Co. aims to clean out that Pandora's box with Font Box, a housekeeping utility for fonts.

Via a sequence of dialog boxes, users can instruct Font Box to analyze a hard drive, identify corrupt fonts, eliminate duplicates and fix font IDs. The utility checks for bitmapped fonts that lack corresponding PostScript fonts and vice versa. When the analysis is complete, the software can move verified fonts into either the System folder or a Font Box folder for use with a font-management utility such as Symantec Corp.'s Suitcase.

A $29.95 personal version of Font Box can handle up to 250 font files. (Bold or italic styles of a single typeface, for instance, are counted separately.)

A $69.95 version works on an unlimited number of fonts on all local volumes; a $159.95 professional version works with networked volumes as well. Some versions of Font Box are available on CD-ROM for an extra $10.

Insider Software Co. of Bryn Mawr, Pa., can be reached at (610) 526-0600; fax (610) 526-6667; http://www.theInside.com. □

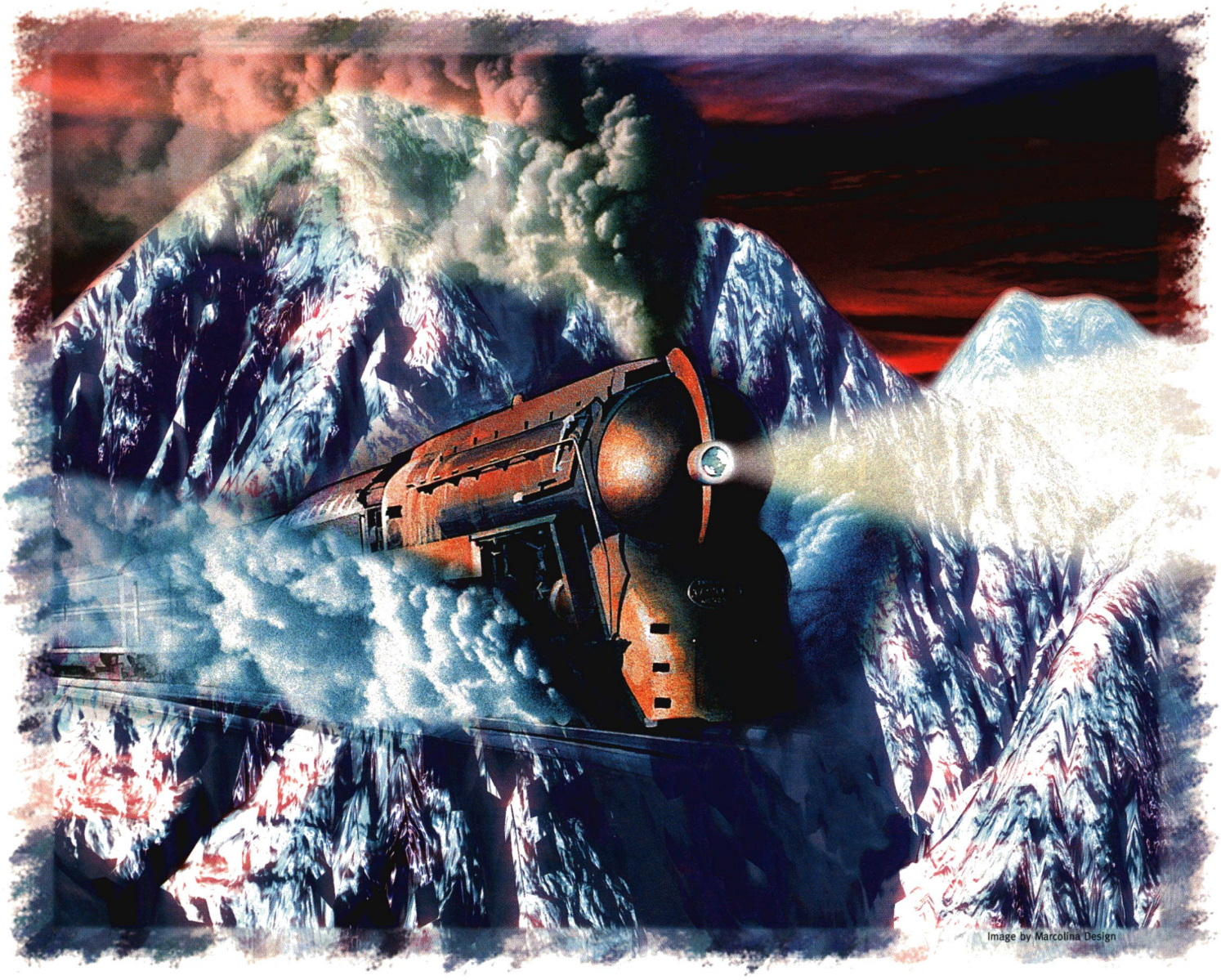


Image by Marcolina Design

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Monaco

From Page 8

MonacoExpert is available separately for $895. A package that includes MonacoExpert, MonacoColor 2.0 and three calibration targets costs $1,895.

▶ **MonacoBatch 2.0**, which adds background batch-processing capabilities to MonacoColor. After users designate a source folder, the software automatically color corrects and separates all files located there and moves the processed image to a destination folder on the Mac or an Open Prepress Interface server.

The new version adds support for selective color correction, including any separation table compatible with Photoshop. MonacoBatch 2.0 sells separately for $1,495.

▶ **MonacoPrint**, a print-profile package that lets users create a correction table for each color output device at a site. The software generates a calibration target from an output device. Users can then read the results with an X-Rite DTP51 Auto Scan Colorimeter, included with the package, enabling the software to create a ColorSync 2.0-compatible profile, a PostScript Level 2 rendering dictionary or a Photoshop-compatible table.

The MonacoPrint package alone is priced at $4,995.

Monaco Systems Inc. of Andover, Mass., is at (508) 749-9944; fax (508) 749-9977. □

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L•TV Portable Pro $299.99
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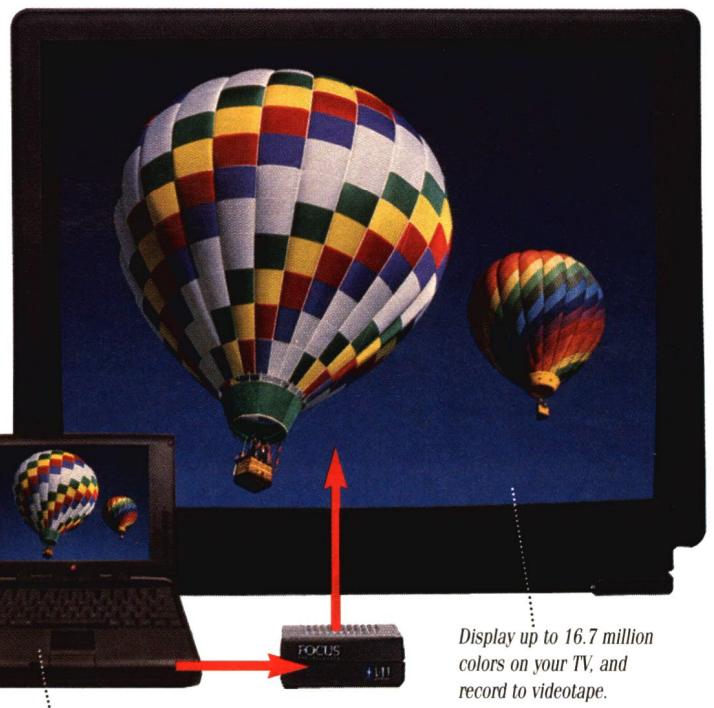

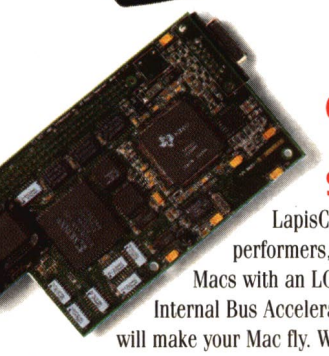

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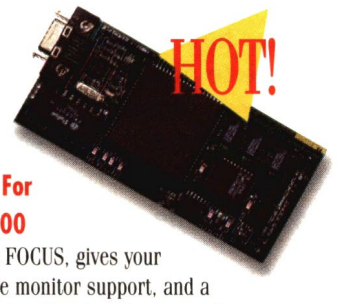

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Plug-ins

From Page 8

different needs, but since all the codecs can be supported at one time through the plug-in architecture, choosing won't be a decision users have to make," Davis said.

McManus agreed, but said users will react to what could be an avalanche of plug-ins by settling on only a few, which will become the standards.

Mac users may have little influence on this process, however. Most plug-ins are not available for the Mac until up to six months after their Windows counterparts.

The following plug-ins are now available for the Macintosh; all are free. A full list of shipping and coming Mac plug-ins, including the URLs (uniform resource locators) where they can be found, is posted in the Resources section of MacWEEK Online at http://www.zdnet.com/~macweek/.

▶ **Totally Hip Software** of Vancouver, British Columbia, now offers a beta of its Sizzler plug-in that lets users play back streaming animation files. Sizzler files are standard PICS files converted into a proprietary format.

▶ **Iván Cavero Belaúnde**, a developer based in Lima, Peru, recently shipped ViewMovie, a QuickTime plug-in that provides an embedded movie player. The plug-in lets Webmasters add to their sites film clips that will play back while being downloaded. Belaúnde said developers can use custom HTML tags that ViewMovie understands to present autolooping clips; movies that double as image maps; dynamic animation files, such as animated buttons and menus; or background music.

▶ **DSP Group Inc.** of Santa Clara, Calif., offers TrueSpeech, an embedded decompression tool that supports streaming audio playback.

▶ **MVP Solutions Inc.** of Palo Alto, Calif., and Bill Tudor, a shareware developer based in Albany, N.Y., have shipped text-to-speech plug-ins. MVP's Talker works with Apple's PlainTalk Speech Synthesis technology. Tudor's Speech plug-in takes advantage of MacInTalk and Apple's Speech Manager. Web-page developers can mark sentences to be spoken using custom HTML tags.

▶ **Tumbleweed Software Corp.** of Redwood City, Calif., has released a plug-in that lets Web users view compound documents saved in Novell Inc.'s Envoy portable document format. Envoy files are highly compressed but preserve the visual formatting and content of documents created using traditional desktop publishing applications, such as QuarkXPress. The plug-in lets users perform text searches and zoom a document.

▶ **Progressive Networks** of Seattle has released the RealAudio 2.0 plug-in for Power Macs only; a 680x0 version is in development. The plug-in provides support for audio streams embedded in an HTML document and streams with embedded cues that can change the visual appearance of the current HTML page. □

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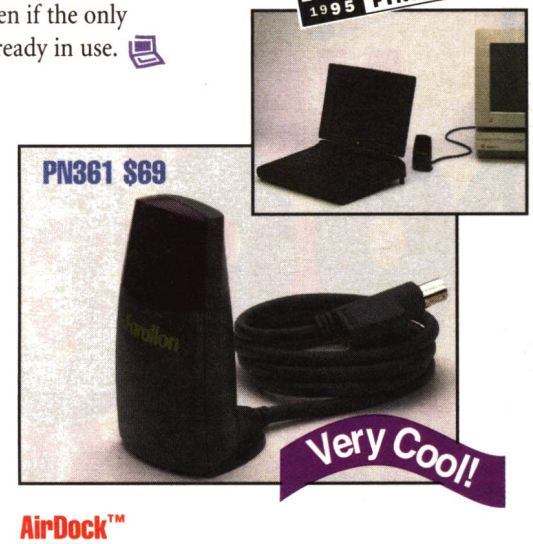

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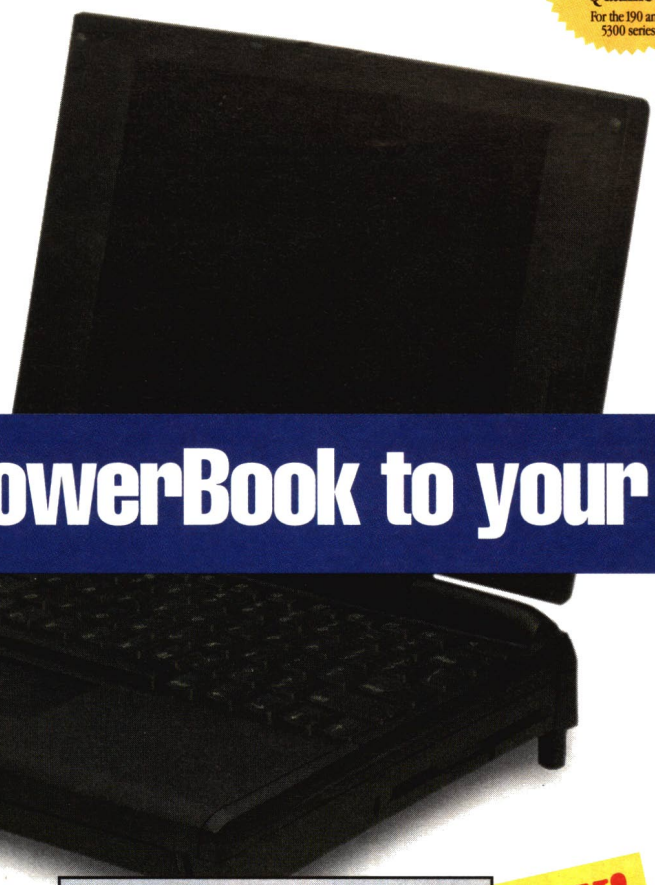

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EMAILER UPDATED

Claris has released Claris Emailer 1.0v3; it is available free from Fog City Software at http://www.fogcity.com.

Mac developers get box of tools

Apple, Mainstay update products

By Clifford Colby

Spring may still be weeks away, but a garden of new Mac development tools has already begun to sprout.

▶ **Apple** is now shipping Release 19 of its Macintosh Programmer's Workshop Pro development environment. The new version comes with Apple's C and C++ compilers for Power Macs, MrC and MrCpp. Release 19 also includes a new Code Fragment Manager for 680x0 Macs and SOMobjects for Mac OS, as well as updated versions of MacApp and Power Macintosh Debugger. MPW Pro costs $195.

▶ **dtF Americas Inc.** released a suite of OpenDoc tools for linking applications with databases; the company claims its dtF Database Toolkit is the first shipping OpenDoc application.

See Tools, Page 16

New developers tools on the way

TOOL	AVAILABILITY
Absoft Fortran 90	Midyear
Apple MPW Pro	Now
Black Star Publishing Java compiler	Now
dtF Americas dtF Database Toolkit	Now
EveryDay Objects Internet Authoring Toolkit	Midyear
Mainstay VIP-C and VIP-BASIC	Now
Pictorius ODBC version of Peregrine	March
Quasar Knowledge Systems SmalltalkAgents	First quarter
Willows Software Twin	Second quarter

FTPd becomes NetPresenz

By James Staten

The man from Down Under is throwing a new version of FTPd, his popular shareware Internet server, on the barbie.

Shareware developer Peter Lewis, based in Booragoon, Australia, this month shipped Version 4.0 of the $10 product. Now called NetPresenz, the update adds support for Web CGIs (Common Gateway Interfaces) and Open Transport, plus several bug and interface fixes.

"Three cheers for inexpensive, powerful software," said Steve Maller, free-range programmer for Amalgamated Software Industries of Burlingame, Calif. "The performance is an order of magnitude better than MacHTTP [the shareware predecessor of Quarterdeck Inc.'s WebStar]."

Lewis said he renamed the product NetPresenz to better reflect the program's ability to serve files through FTP, HTTP (Hypertext Transfer Protocol) and Gopher.

Users who registered FTPd after Jan. 1 can upgrade free; those who registered before then can upgrade for $5.

Peter Lewis of Stairways Software Pty. Ltd. can be reached at peter@stairways.com.au; http://www.share.com/peterlewis. □

AutoPay puts sales rep inside apps

By James Staten

Putting a new twist on sales automation, Release Software Corp. recently unveiled a payment tool that can be embedded directly into an application.

Release's AutoPay lets software developers tie their products to an electronic commerce system that allows users to pay for software directly. The AutoPay API can also be used to customize the application. For example, the API can disable certain features until payment is received or limit the amount of time the product can be used before payment is received.

Developers can use AutoPay for more complex payment plans such as per-use fees, which unlocks all of an application's features for a day, month, quarter or year. For more aggressive sales efforts, developers can set AutoPay to detect competing products on a user's hard drive and adjust their product's price to undercut rivals. To

See Release, Page 16

Mac ATM PCI cards to arrive from Fore

By Clifford Colby

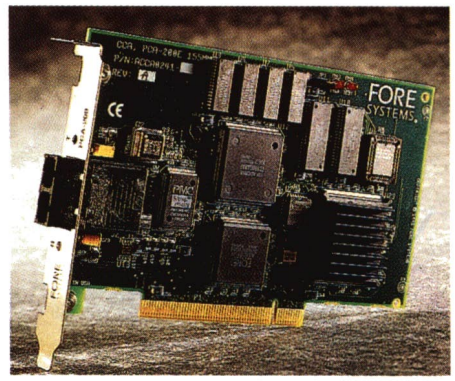
Adding to its growing line of Asynchronous Transfer Mode products, Fore Systems Inc. said it intends to ship by early March two ATM PCI cards.

The ForeRunner PCA-200-EMAC cards will be available in two flavors: one 155-Mbps card will use SONET (Synchronous Optical Network) signaling over fiber-optic cabling and cost $1,195; the second 155-Mbps card will run over Category 5 unshielded twisted-pair copper wire and sell for $995.

The cards will include device drivers for Open Transport 1.1 and will comply with the ATM Forum's LAN Emulation 1.0 specifications.

"I've just started testing the Fore card, and with Open Transport, I'm getting close to 70 Mbps on a Power Mac 9500," said Michael Saverino, vice president of NetSpace Corp., a software development company in Johnstown, Pa. "We are doing a lot of work in networked, collaborative, 3-D modeling, so we need the multicast capabilities, scalability and guaranteed service of ATM."

Fore Systems Inc. of Warrendale, Pa., is at (412) 772-6600; fax (412) 772-6500; info@fore.com; http://www.fore.com. □



Set to tee off: Fore's 155-Mbps ATM cards for PCI Macs will come bundled with Open Transport 1.1 device drivers.

FOCUS ON COMMUNICATIONS

ISDN rate hikes draw protest

By Joanna Pearlstein

In a move ISDN fans and consumer advocates consider a major setback, several common carriers are petitioning to raise rates for ISDN services, citing costs that were higher than expected.

When they first offered ISDN, or Integrated Services Digital Network, phone companies set fairly low prices, hoping a low cost of entry would drive demand. With the explosion of the Internet and increased popularity of telecommuting, the plan worked — perhaps too well.

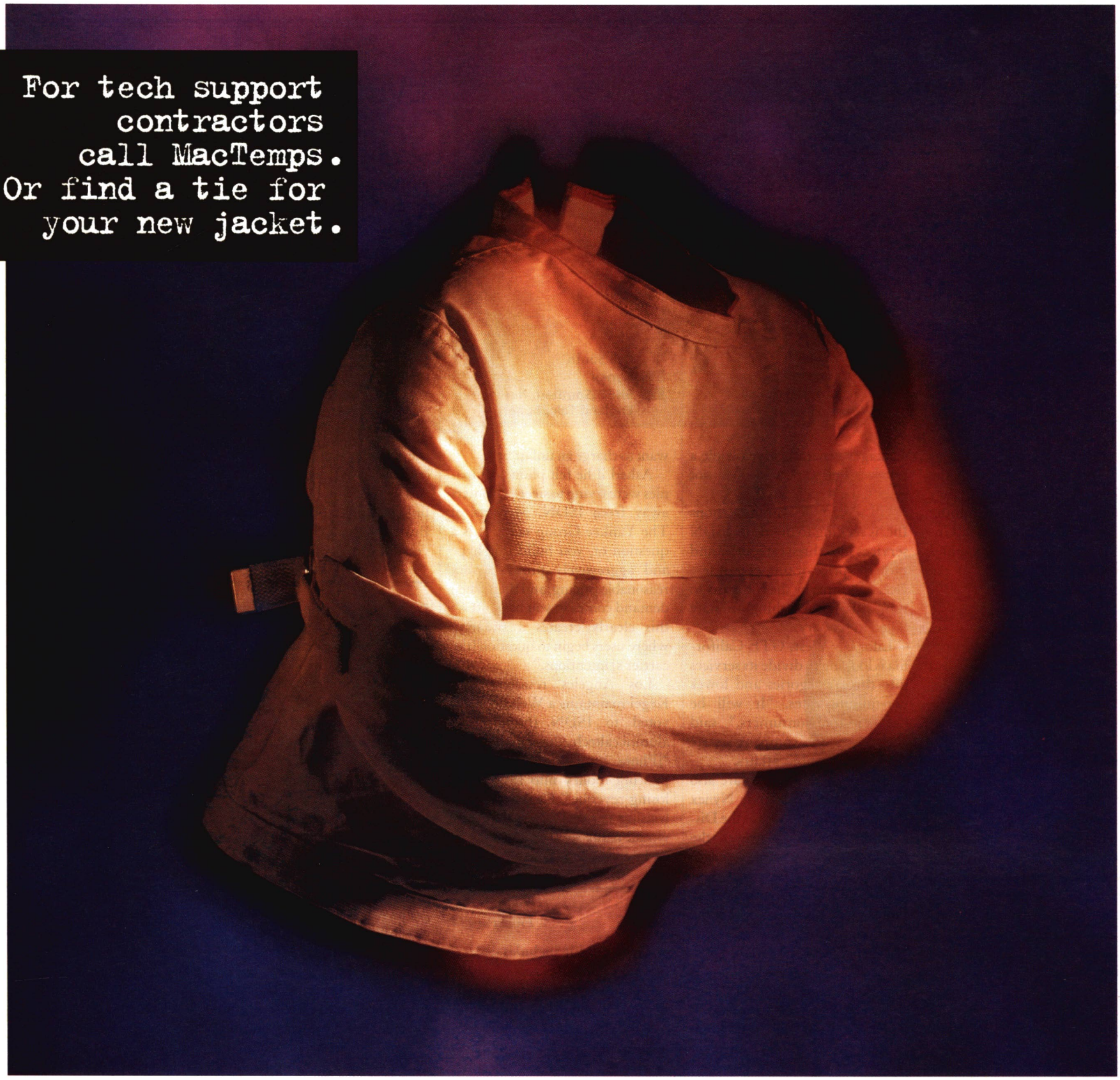
Some users suspect that service providers are really trying to discourage ISDN use by pricing it at rates that, as one user put it, "only the Lamborghini crowd can afford." These users believe phone companies don't want to provide ISDN service because it is expensive and because technologies like cable modems (see 06.26.95, Page 20) and asymmetric digital subscriber line (see 11.06.95, Page 22) may make

See Focus On, Page 16

Common carriers' ISDN prices

COMPANY (LOCATION)	INSTALLATION FEE	MONTHLY FEE	CURRENT COST FOR 50 HOURS*
Bell Atlantic (Va.)	$144.25	$31.00	$151.00
Nynex (N.Y.)	$300.00	$34.20	$250.00
Pacific Bell (Calif.)	$34.75**	$24.50	$87.54**
US West (Wash.)	$85.00	$35.00	$125.01

**Pricing based on dual-channel usage per month, during peak hours. It includes monthly service fee. **Pacific Bell has petitioned for a rate increase that would push the rate for 50 hours to $150.52. It is also seeking a $100 increase in its installation charge.*



Instead of working until your friends in the white coats come to see you, call MacTemps for tech support contractors. They can help you with everything from DIMM and Ethernet card installation to software and system upgrades. They can even staff your help desks. And since MacTemps specializes in Macintosh personnel, we're the one agency that can send you Mac contractors who can hit the ground running. No training, no hassles, no headaches. Don't wait. Get in touch with us right now. And ask for a free list of tech support phone numbers. Or start thinking about what would match better: a flowered or paisley tie.

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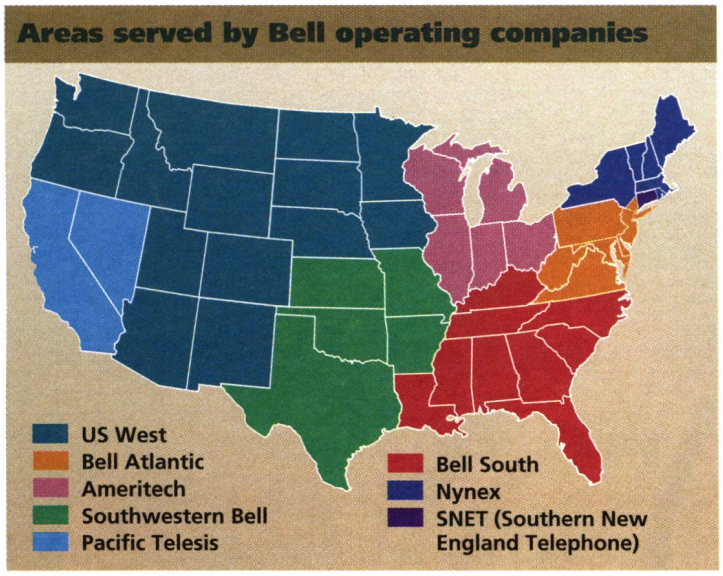
FOCUS ON
From Page 14

ISDN obsolete in a few years.

ISDN prices, like all common carrier services, are governed by tariffs managed by state utilities commissions. When a phone company wants to raise rates, it must propose the increase to the appropriate utilities commission, which considers the request and usually asks for customer input.

Initially, many phone companies charged a flat fee for at least a portion of ISDN service. For example, Pacific Bell has charged 3 cents per line for the first minute and 1 cent per line for each additional minute for ISDN use during normal business hours. If the call goes outside the user's local calling area, then they pay only the normal per-minute rate for an analog toll call. Unlimited access in the evening and on weekends is included in the basic monthly fee.



Tariff battles

Now, like several other companies, Pacific Bell wants to rescind the unmetered service, replace it with per-minute rates and raise prime-time rates.

"The cost to bring [ISDN] service to remote users is higher, and their ranks are growing," wrote Tom Bayless, switched digital services director at Pacific Bell, in a statement about the company's proposed rate hike. "Unlimited night and weekend usage has driven many to never turn their lines off during those times [which has] proven to be costly."

Sanjay Mewada, analyst at The Yankee Group of Cambridge, Mass., said he didn't buy Pacific Bell's argument that the remote location of many users drove prices up. "Research has shown that close to 80 percent of users fall within 18,000 feet of, or 3.4 miles, of an ISDN switch. Why should [the majority] pay more for those who are outside the 3-mile radius?" Mewada added that he did understand the phone companies' desire to keep users from leaving connections open during off-peak times.

Last November, Bell Atlantic Corp., which serves several mid-Atlantic states, stopped charging extra for customers who live outside the 18,000-foot radius.

"Our desire is to make it as easy and affordable as possible so that people will use the service," said Bell Atlantic spokeswoman Joan Rasmussen. Rasmussen added that Bell Atlantic will roll out ISDN packages later this year; while she would not provide specific pricing, she said, "Pricing packages generally give people a break." Bell Atlantic does not offer flat-rate service.

US West Communications Inc. is seeking to divide its ISDN services into three categories and raise the price of unmetered service. Attempts by the company to raise rates in Washington state failed in January.

Like US West, GTE California is looking to divide its services into three categories and lower per-minute rates. "It will be cheaper for consumers," said Larry Cox, the company's state manager for public affairs.

Rate change proposals are also afoot in New England, Nynex Corp.'s territory, as well as the District of Columbia; however, the scope of those changes is unclear.

Pricier ISDN: A conspiracy?

James Love is director of the Washington D.C.-based Consumer Project on Technology, a consumer advocacy group that is trying to prevent ISDN rate increases. "[Phone companies] don't want to sell residential ISDN," Love said. "They want to offer it as a niche service and charge an arm and a leg for it. ... They design a rate structure that gives you all kinds of incentives not to use it."

David C. Barry Jr. of Reseda, Calif., hosts the Pacific Bell ISDN Rate Hike Protest Web page (http://www.pacificnet.net/~dcbarry/isdn/main.html). "Does Pacific Bell really want to promote this service, or don't they?" Barry asked. "It's hard for me to believe they need the extra revenue. I wonder if they are thinking, 'We just don't want to be providing this service.' "

Fred Goldstein, a senior consultant at Internet service provider BBN Corp. in Cambridge, said: "Phone companies hate [ISDN] because it's all local calls to Internet service providers. They don't like being in the data business, and they want to charge an unfair price."

Asked if he felt phone companies were trying to steer customers away from ISDN, Mewada of The Yankee Group said, "It is a question of, you build this hype and aggressively promote very reasonable pricing, and then when demand comes in you back off — this clearly creates a situation where users begin to question [the carrier's] intentions."

Los Angeles resident Dan Kegel maintains a Web page devoted to ISDN (http://www.alumni.caltech.edu/~dank/isdn/). "[Phone companies] are tired of pouring money into ISDN and losing revenue," Kegel said. "By [raising prices] they basically would really slow down growth, and they know it." □

EveryWare Tango to link SQL databases with Web

By Clifford Colby

EveryWare Development Corp. plans to add Open Database Connectivity to Tango's steps while it finishes the final movement of Bolero, another ODBC-aware Internet database tool.

Tango is EveryWare's recently shipped development tool for integrating SQL databases with Quarterdeck Inc.'s Web server, WebStar. With Tango, users can build forms, reports and design queries; Tango can then generate the necessary HTML and SQL code automatically.

The initial release of Tango linked WebStar to EveryWare's Butler SQL database. The new version, due by the end of this month, will expand Tango's repertoire with ODBC, allowing users to link Tango to any database that has the appropriate drivers. Tango with ODBC will cost $495 for a two-user license and $995 for a five-user license.

EveryWare said it plans in March to ship Bolero, which tracks Web-site activity and logs it into ODBC-compatible databases. It will work with WebStar; support for Unix and Windows Web servers will arrive later this year. Pricing for Bolero has not been set.

EveryWare Development Corp. of Mississauga, Ontario, can be reached at (905) 819-1173; fax (905) 819-1172; info@everyware.com; http://www.everyware.com. □

Release

From Page 14

prevent unauthorized copying, AutoPay can also keep track of which machines are using it.

Currently, AutoPay supports the proprietary electronic commerce system run by Release. The company said it is working to develop hooks into other systems.

The AutoPay API adds 90 Kbytes to an application. Users must have a modem to access the payment system; a toll-free 24-hour payment service is also provided. AutoPay with TCP/IP support will be released later this year.

The AutoPay APIs for Mac and Windows are available free at http://www.digimoney.com. Release said instead of charging developers up front for its technology, it will add a surcharge to the purchase price of each product sold through its commerce system.

Release Software Corp. of Palo Alto, Calif., is at (415) 833-0200; info@digimoney.com. □

Tools

From Page 14

The $159 kit includes object-oriented parts for accessing the company's cross-platform SQL relational database, dtF, and comes with a tool for building SQL queries and creating database front ends. The Cupertino, Calif., developer also released an Open Database Connectivity (ODBC) driver for its SQL database. A stand-alone version of dtF costs $695, and a client-server version is $1,595.

▶ **EveryDay Objects Inc.** announced plans to release by midyear a suite of Internet tools based on Prograph CPX, an object-oriented development environment from Pictorius Inc. According to Merrillville, Ind.-based EveryDay, the Internet Authoring Toolkit will let users build client-server applications that run over the Internet. Pricing has not been set.

▶ **Pictorius** has been busy this winter as well, announcing it will ship in early March an ODBC version of Peregrine, its client-server development tool. Peregrine will cost $1,495 to $2,495, depending on the number of server connections.

The Halifax, Nova Scotia-based developer said it will also ship Power Mac and 680x0 compilers for Peregrine this month. A version of Prograph CPX for Windows 95 and Windows NT will ship in the spring; pricing on Prograph CPX for Windows has not been set.

▶ **Quasar Knowledge Systems Inc.** of Bethesda, Md., plans to ship in the first quarter a Power Mac-native version of its SmalltalkAgents language. The update will include TSE International's CXBase Pro database engine and Symantec Corp.'s Think Reference. A Windows version is due in the third quarter. Pricing is not available.

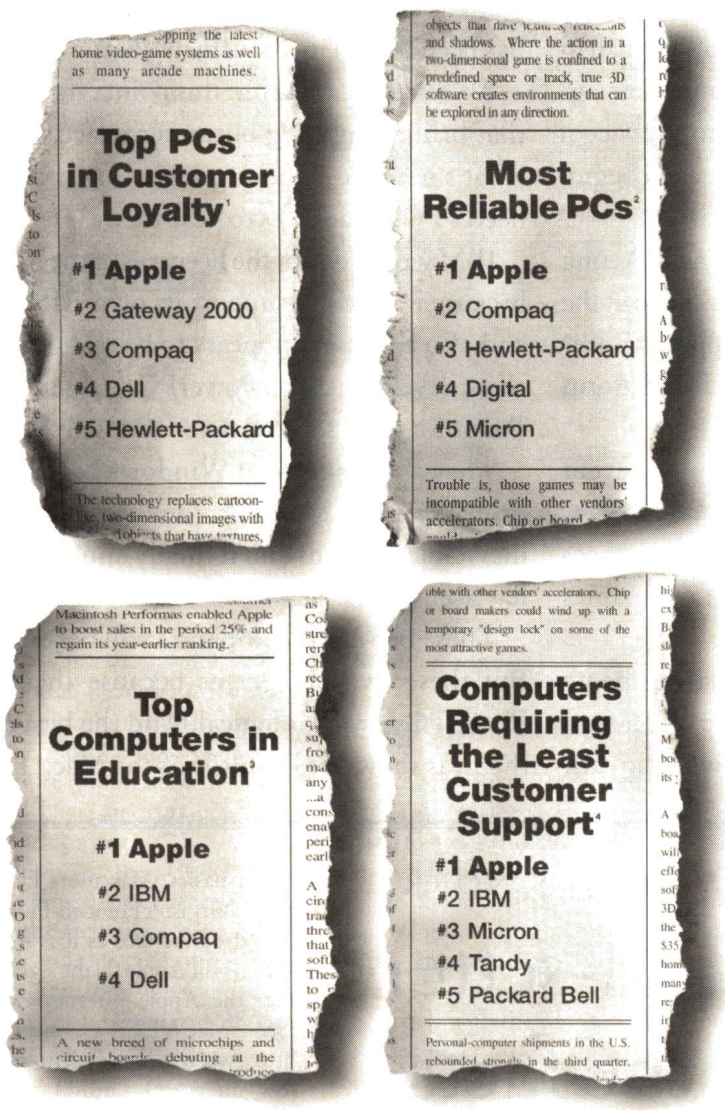
▶ **Willows Software Inc.** is preparing to ship in the second quarter its porting tool kit for the Mac. Called Twin, the company said the tool kit will contain a set of cross-platform tools and libraries that will let developers migrate Windows applications to the Mac. Willows already has a Unix version available and is working on an OS/2 version. Licensing for Twin will be $250 per application per platform.

▶ **Absoft Corp.** of Rochester Hills, Mich., plans to offer what it says is the first Fortran 90 compiler for Power Macs. The beta, due this month, will come with a 680x0 code generator; the final version is expected to ship this summer. Fortran 90 will cost $799; current users of Absoft's Fortran 77 can buy Fortran 90 for $399.

▶ **Mainstay** of Camarillo, Calif., in January shipped updates to its VIP-C and VIP-BASIC languages. The $195 VIP-BASIC upgrade includes a BASIC-to-C code translator; registered users can upgrade for $95. The update to VIP-C comes with a set of tools for creating forms and costs $295, with an upgrade price of $95.

▶ **Black Star Publishing Co.** of New York is offering a free Java compiler on its Web site, http://www.blackstar.com. Users can upload Java code to the site and then download the compiled class files. □

Some sound reasons to buy a Mac.


home video-game systems as well as many arcade machines.
Top PCs in Customer Loyalty[1]
#1 Apple
#2 Gateway 2000
#3 Compaq
#4 Dell
#5 Hewlett-Packard
The technology replaces cartoon-like, two-dimensional images with
and shadows. Where the action in a two-dimensional game is confined to a predefined space or track, true 3D software creates environments that can be explored in any direction.
Most Reliable PCs[2]
#1 Apple
#2 Compaq
#3 Hewlett-Packard
#4 Digital
#5 Micron
Trouble is, those games may be incompatible with other vendors' accelerators. Chip or board
Macintosh Performas enabled Apple to boost sales in the period 25% and regain its year-earlier ranking.
Top Computers in Education[3]
#1 Apple
#2 IBM
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#4 Dell
A new breed of microchips and
ible with other vendors' accelerators. Chip or board makers could wind up with a temporary "design lock" on some of the most attractive games.
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[1]*Consumer Technology Index study published 7/95 by Computer Intelligence InfoCorp.* [2]*Based on a reader survey published 12/95 by* PC World. [3]*Figures represent planned K-12 purchases for U.S. public schools as published in Quality Education Data's 1995-96 Technology Purchasing Forecast.* [4]*Based on a reader survey published 11/95 by* Home PC.

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BPA INTERNATIONAL

Big names in Mac future

With the gloomy events overshadowing Apple management these days, we've all taken our eye off the ball in terms of Mac products and their significance. But amid the chaos in Cupertino a few cool heads have continued to develop and have even begun to market future Macs.

The most significant occurrence was both a marketing and engineering accomplishment. Two weeks ago at the industry insider conference Demo 96, an Apple engineer showed off System 7.5.3 running on a PowerPC Platform (PPCP) machine built by IBM Corp.

More than a proof of concept, this seminal event kick-starts the beginning of a new clone business strategy for Macs, one that is likely to include licensees whose name recognition surpasses that of companies currently selling Mac compatibles.

For two years Apple has been hinting that big-name companies will sell hardware with the Mac OS, but no major company has stepped forward with an announcement, let alone a product shipment. That awkward silence has contributed to the sense that Apple has been beaten in a conclusive battle with Wintel.

To counsel patience at this point is to repeat a mantra that brings anything but inner peace. But patience is what's needed. Announcements are coming, but we'll need PPCP machines to hear them.

IBM will be one of the licensees of the Mac OS, in part because it needs to support its own RISC architecture and also because it appears to be scaling back its OS/2 client development on PowerPC. Macs make wonderful clients for OS/2 servers. And IBM will sell them.

They also make great Windows NT clients, which is probably what Motorola Inc. has in mind when the inevitable happens and it finally announces that it, too, has licensed the Mac OS.

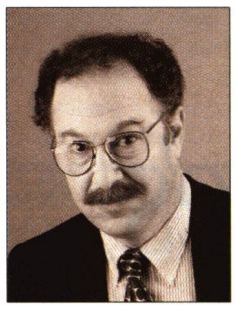
These big-name companies will be joined by others. But these two are givens because their business in PowerPC servers is logical. And the best client OS for them, as shown at Demo 96, is the Mac. □

THE SECOND DECADE HENRY NORR

Apple as standard-setter? Let's start with the facts

Apple, according to the open letter it placed in daily newspapers Feb. 8, "continues to define industry standards for the Internet."

Excuse me, but which standards are those?



After searching Apple's Web sites, white papers and press releases, I've found precisely one initiative that might be called standard-setting: The company has offered its 3DMF (3-D metafile format), royalty free, as a standard for the exchange of 3-D graphics over the Internet. According to the Jan. 9 announcement, Apple is "in discussions with leading browser companies" about its offer; it has also proposed the format to the VRML Architecture Group as an extension to the existing 3-D display standard, Virtual Reality Modeling Language (VRML). Beyond that — hold on to your hats — it has "started an ongoing dialogue with members of the VAG on 3-D strategies for the Internet." All in all, strictly a wannabe standard, I'd say.

Not-so-virtual realities

Now consider what's actually happening. Most of the industry last week announced support for a different standard, called 3D VRML; Apple (as well as Microsoft Corp.) was conspicuously absent. Netscape Communication Corp.'s Web site lists four VRML plug-ins for its browser — not one of which runs on the Mac. (Virtus Corp. offers a VRML browser and helper application for the Mac, but no plug-in yet.) Also listed were 19 other plug-ins, of which only four were available for the Mac. Such Mac stalwarts as Adobe Systems Inc. and Macromedia Inc. have Windows but not Mac plug-ins. Even Apple's own QuickTime plug-in, announced months ago, is still "coming soon."

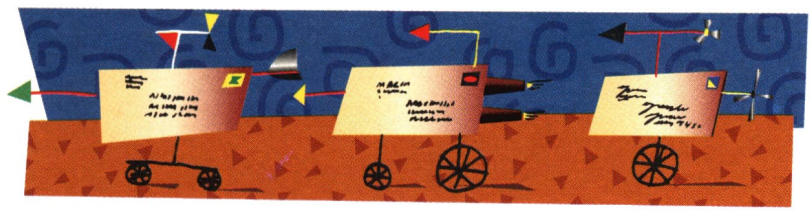
Then there's Java: It's the hottest thing in computing, but there's still no Java-enabled browser for the Mac.

The problem, unfortunately, isn't confined to the Web's cutting edge; even for Internet basics, Mac users face some serious gaps. Why isn't Point-to-Point Protocol built into the Mac OS, as it is in Windows 95? When will Apple fix the significant bugs that mar the Apple Internet Connection Kit? (See MacWEEK's on-line review at http://www.zdnet.com/macweek/mw_1004/rev_internet_kit.html.) How many years will we have to wait for a 28.8-Kbps GeoPort adapter — not to mention ISDN (Integrated Services Digital Network) support?

Constructive criticism

The Internet explosion gives Apple a chance to market its technology in fresh forms; Pippin and Cyberdog could mark the dawn of a new era. If new CEO Gilbert Amelio asked my advice, I'd suggest giving top priority to exploiting such opportunities. But I'd add, to quote the headline on that open letter, "Let's start with the facts": In terms of client-side capabilities, the Mac today lags behind in some important ways, and self-congratulatory proclamations about standard setting won't solve the problem. To catch up, Apple has to clean up its own Internet act and go all-out — with evangelism, tools, technical assistance and maybe even cash — to encourage development of third-party software for its platform. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or eWorld or at henry_norr@macweek.com.



LETTERS

Round and round

Michael Spindler was a turnaround artist, too. Let's hope that Gilbert Amelio, unlike Mr. Spindler, knows enough to stop turning once he reaches 180 degrees.

Rick Lesniak
Data Fusion Technologies
Williamsville, N.Y.

OpenDoc key to future

I am writing in response to the MacWEEK Insider (02.05.96, Page 3). You indicated that Microsoft had blown it by not fully supporting OLE on the Macintosh, thus making it more difficult for developers to deliver cross-platform applications.

While I agree with your premise, I think you have understated the importance of OpenDoc in the future of the Macintosh and cross-platform, client-server development. Most articles have focused exclusively on OpenDoc as a means of developing "cool" compound documents that free users from application-centric work. While that is the most obvious feature of OpenDoc, far more important is the effect OpenDoc could have on cross-platform, client-server development.

OpenDoc's use of the CORBA, a standards-based cross-platform object bus, will bring, for the first time, distributed objects to a high-volume computing platform. Moreover, this industry standard is multiplatform, covering Unix and OS/2, as well as Macintosh and Windows.

OLE, while here today, lacks many of the features that are important for client-server development. It currently does not support a distributed architecture, and when it does, it will do so first in a Microsoft-biased environment (Windows 95 to Windows NT).

With all the bad news swirling about Apple and the mainstream press insisting that Apple has become a technology also-ran, I would think that the Apple trade press would spend more time disclosing to the public the true importance of technologies such as OpenDoc.

Jay G. Ethridge
Engineering technical lead
Dynamic Resources Inc.
Falls Church, Va.

Light a fire

Apple needs to get fired up! Several challenges and opportunities await the company in 1996, and it can't afford to mess them up because nobody will care in 1997.

First, Apple must successfully manage the PowerPC Platform introduction. The Mac OS must run smoothly, and Apple must work closely with licensees to ensure their computers are well-designed.

Second, the Copland transition must be flawless. Above all, Copland must be stable. Apple must work with software vendors to ensure that their INITs, drivers and extensions are ported properly.

Third, Apple must evangelize OpenDoc. OpenDoc's document-centric, peer-to-peer object model is fundamentally superior to Microsoft Corp.'s application-centric object-embedding model. Users want simple tools that work, and OpenDoc delivers the necessary framework.

Fourth, Apple should begin porting its technology to Windows starting with OpenDoc. Novell Inc. already dropped the ball, and I doubt IBM Corp. even sees the ball.

Certainly, Apple is not dead. However, Apple cannot afford to repeat 1995.

Benjamin K. Shoesmith
IT consultant
Deere & Co.
Waterloo, Iowa

Religious doubts

While Apple's troubles depress the hell out of me, what really chokes me is the idea of having to use, 10 hours or more a day, some god-awful Microsoft OS. The notion of losing the ability to choose something other than Windows in its many incarnations is simply unacceptable. I need a new machine, as does my college-bound daughter. We'll stick with the Mac OS for as long as it's a viable option or until the world of computing moves on to a new level and to an altogether new paradigm. We need to see and hear some serious evangelism again. There truly is a quasi-religious aspect to the faithful's loyalty to the Mac and Apple, and it would be gratifying to hear Apple's board acknowledge it.

Dr. Seth Lewin
Clinical Review Systems
Needham, Mass.

Apple under the pun

Thought police at Apple? Perhaps that's why it named its next operating system Cop Land. Now that Apple is, indeed, out of spin control, one can hope that the new management will Ameliorate the situation.

Michael Markman

How to contact MacWEEK

Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; fax (415) 243-3651. We can be contacted on-line: CompuServe, 76077,1351; eworld, MacWEEK; MCI, 323-1203; Internet, letters@macweek.com. Include your name, address and phone number. We reserve the right to edit for clarity and length.

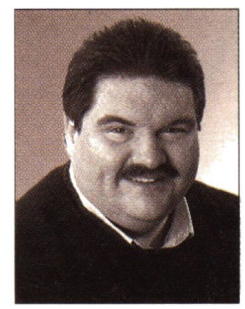
THE MAC MANAGER DON CRABB

Mac OS: Stumping for this candidate in 1996

Nov. 5, 1996. Election Day. The day that Apple starts *selling* Copland. Or System 8, or Mac OS 2 or whatever it's called. (How about a real *brand name*?)

Am I hoping Apple will be selling Copland by then? Or have I gotten caught up in the rhetoric of this early election season and am desperately seeking political tie-ins at every turn?

Perhaps. But Apple must have Copland out in time for the Christmas 1996 selling season.



Election '96

Copland should dominate the thinking of the computer industry and buying public in the same way that the fall election will pervade the American political landscape.

In fact, shipping Copland on Election Day would be a hell of a good tie-in. Think of the marketing theme: "As you elect your new president, elect to take your personal computing experience to the state-of-the-art with the Copland Mac OS." A bit of a stretch, you say? No more so than Microsoft Corp. using the Rolling Stones to sell Windows 95.

With Copland shipping on Election Day, Apple would guarantee that it would have the new OS in time for all of its Christmas promotions. It would also guarantee that Copland would ship long before the next version of Windows NT.

No product is more important to Apple than Copland. Not OpenDoc. Not Cyberdog. Not QuickTime VR. Not QuickDraw 3D. Not even the latest Power Macs, PowerBooks, Pippins or MessagePads that will be shipping by then. Copland will set the technology base for all of Apple's strategic plans. Everything else builds on it.

Can Apple win on Election Day? Can it ride the coattails of the biggest American electoral event? Can it keep its message clear and get major media coverage?

Stuffing the ballot box

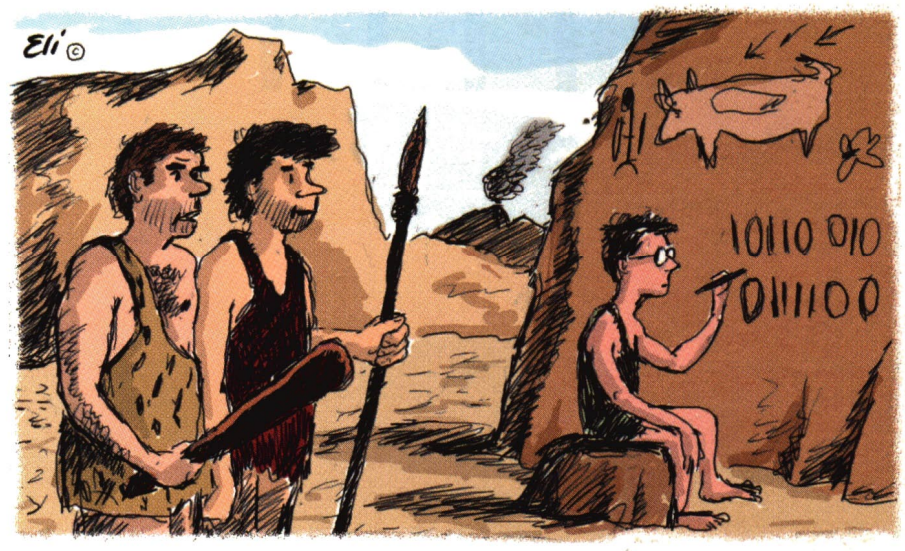
It can't so long as it keeps thinking small. Forget the development issues for a moment (for example, can Apple actually get Copland done by Nov. 5?) and concentrate on the marketing messages that the Copland launch should emphasize:

- Copland is the state-of-the-art OS for notebook and desktop computers.
- Copland offers the most flexible yet robust interface of any personal computer OS.
- Copland provides an OS platform that integrates all unique or best-of implementation system technologies.
- Copland works with existing Macintosh applications and Mac OS products.
- Copland uses the full hardware power of the PowerPC Platform and Power Mac lines.
- Copland provides the best combination of protected services and performance of any personal computer OS.

If Apple can create a *Copland Platform*, not unlike the political platforms, it can pull this off. But Apple will need a lot more than marketing slogans to do this. It needs for Copland to beat Windows 95 and Windows NT by a landslide. Technically. On price. Through customer satisfaction. And ultimately, at the ballot boxes known as computer stores.

Call this plan Apple's New Deal if you will, but it better be a very Big Deal. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.



"He never hunts, and the only thing he gathers is something called information."

Comments? Ideas? Contact Eli at elitoons@aol.com

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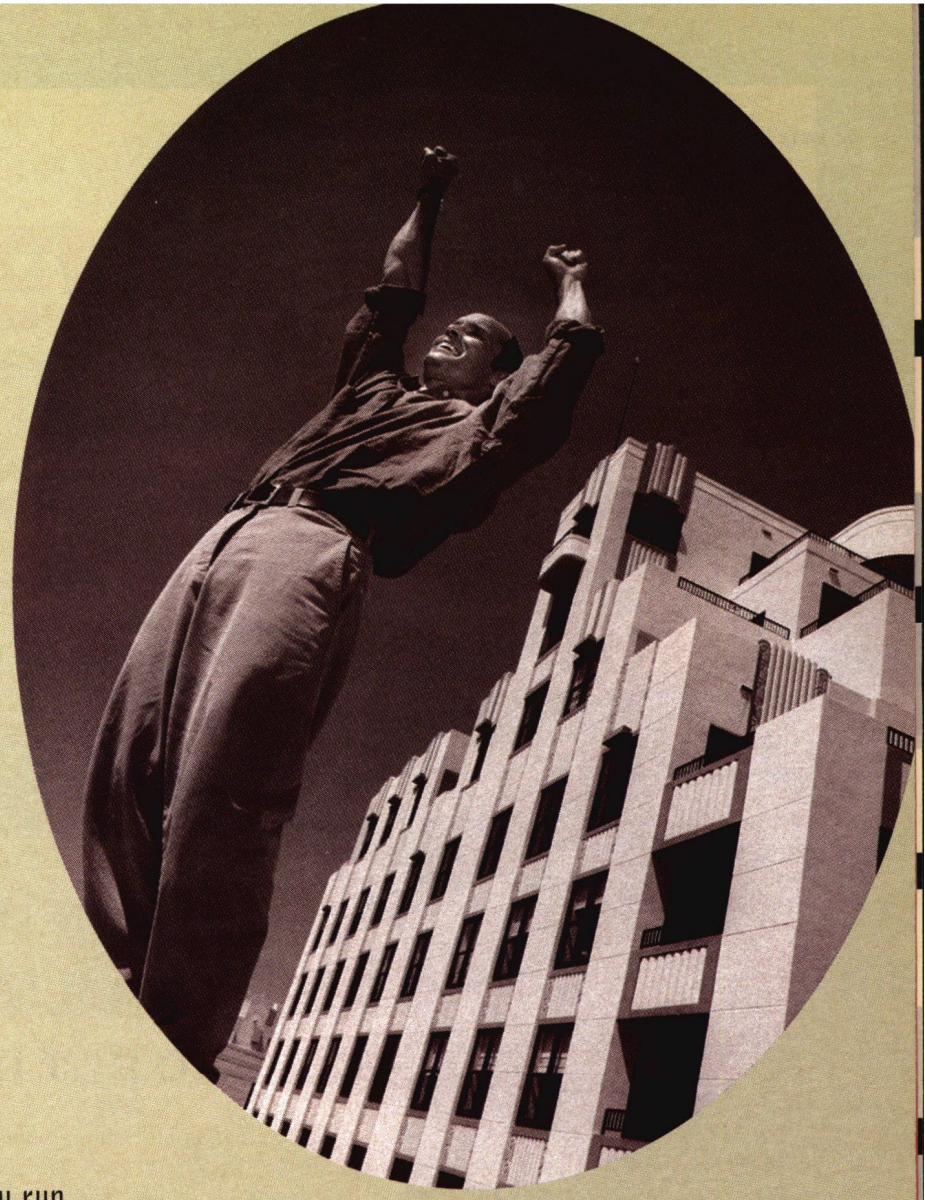

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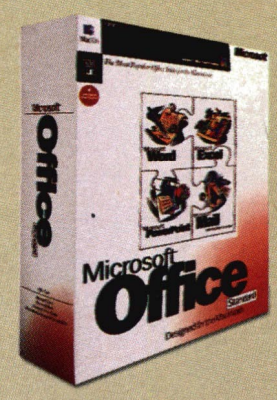

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TIMBUKTU TEST RUN

You can download a free trial version of Timbuktu Pro 2.0 from Farallon's Web site at http://www.farallon.com.

3D World's reliance on QuickDraw 3D helps, hinders users

By Craig Lyn

Low-priced modeling and rendering package is easy to use but not very useful.

Microspot USA Inc. is attempting to bring 3-D to the masses with 3D World, its new modeling and real-time rendering package. The application, which takes advantage of Apple's QuickDraw 3D API, appears to be a steal at $139, but the reality is you get what you pay for.

Targeted at both novices and professionals, the easy-to-use 3D World can serve as 3-D training wheels for beginning modelers, but the lack of high-end modeling features and poor rendering quality will keep professionals looking elsewhere.

While Microspot is positioning 3D World for low-end users and up, you'll need a high-end system to use the package. The application requires a Power Mac with System 7.1.2 or later, and at least 2 Mbytes of RAM. But 3D World also requires QuickDraw 3D — and that can cost you as much as 16 Mbytes of RAM when the program is running.

Also, to take advantage of several features of 3D World, ranging from basic attributes such as transparency to advanced features such as Constructive Solid Geometries, you'll need to purchase a QuickDraw 3D accelerator card. The lowest-priced board, Apple's QuickDraw 3D Accelerator Card, carries a $399 list price (see 11.13.95, Page 1), but that hardware-software combination is still less expensive than most other 3-D packages we've reviewed.

score card

3D World 1.0

Microspot USA Inc.
List price: $139
Overall value ◆◆

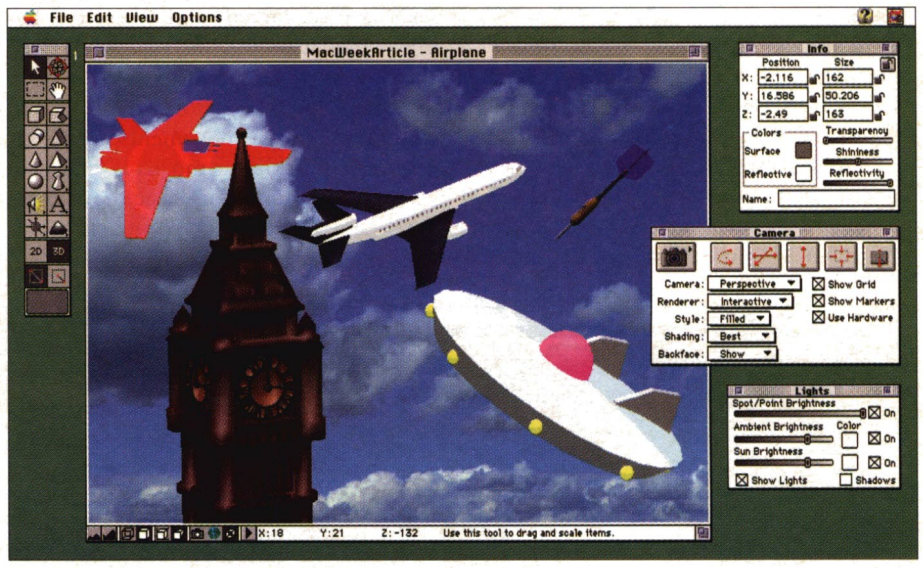
3D World, a low-cost 3-D modeling and rendering application that requires QuickDraw 3D, aims to serve novices and professionals but will disappoint the latter. The easy-to-use program is best-suited as a 3-D training ground, thanks to its clean interface, drag-and-drop texture mapping and basic modeling tools. The program falls short in the rendering department: 3D World relies entirely on the QuickDraw 3D rendering engine to create final output, and the jagged edges it produces are not appropriate for most print or multimedia projects. Because of this and the lack of advanced modeling features, professionals won't find much use for the program. Also, you'll need a QuickDraw 3D accelerator card to add transparency to your models or to use several of the plug-ins that come free with the program — that will set you back another $400 or so, but the total is still less than most other 3-D packages.

Performance ◆◆
Features ◆◆
Ease of use ◆◆◆
Documentation/support ◆◆◆

Key ◆◆◆◆◆ *Excellent* ◆◆◆◆ *Very good* ◆◆◆ *Good* ◆◆ *Fair* ◆ *Unsatisfactory*

Easy 3-D

Microspot has taken the QuickDraw 3D Interface Guidelines to heart: 3D World's interface appears to be a direct implementation of Apple's excellent guidelines. Objects can be rotated or scaled using widgets, which are red control handles placed at key points around a 3-D bounding box. A tool palette holds buttons for creating primitives, lathing 2-D lines and switching between 2-D and 3-D drawing modes, among other functions. Grids, snap-tos and object alignment tools help make your models easy to create. There are also floating Lights and Info palettes that control basic lighting and coordinate data, as well as a Window tool bar for changing views, scaling and navigation.



Microspot's 3D World lets you view and manipulate 3-D models in real time, thanks to Apple's QuickDraw 3D. Lighting, model orientation and camera view can be changed on the fly.

We found model manipulation to be quirky at times. For example, when scaling or moving an object, one misclick will pan the document window to another view.

Drag-and-drop texture mapping makes color mapping a breeze. You just drag textures from another application, the Scrapbook or the Librarian (a 3D World utility) directly onto a 3D World object. The Librarian works like the Scrapbook but also has a search engine and can reference an external file via an alias. There's a downside to 3D World's texture mapping, however: You have no control over the type of mapping (such as cubic, spherical or planar) that's used to cover an object's surface.

You can also drag and drop sounds onto a shape and play them back by clicking once on the object — a unique feature. You can save these models in 3D World's format — 3D World can also save files in

See 3D World, next page

Timbuktu Pro 2.0 opens up with ARA, IPX support

By Mark H. Anbinder

New interface and connection methods part of upgrade to remote-control application.

With Timbuktu Pro 2.0, Farallon Computing Inc. continues to broaden the horizons of its network-able screen-sharing and remote-control software. While previous releases expanded the application beyond its Macintosh-only and AppleTalk-only beginnings by adding support for Windows clients and TCP/IP connections, Timbuktu Pro 2, priced at $145, integrates a built-in Apple Remote Access (ARA) client so you can access networks as a remote node. It also lets you connect via Novell Inc.'s IPX protocol, a boon for the many cross-platform company networks that haven't jumped on the TCP/IP bandwagon. A revamped user interface and Power Mac-native code round out this highly successful upgrade.

Timbuktu Pro 2's redesigned New Connection window makes it much easier to specify a connection method. Always-visible folder tabs let you more easily choose between methods (instead of the pop-up menu used in Timbuktu Pro 1, which showed only the current selection and not your other options). The AppleTalk, ARA, IPX and TCP/IP tabs appear only if the required software is installed, so your screen isn't cluttered with options you won't use.

Farallon's built-in ARA client is pretty smooth, but we'd like to see better interaction between Timbuktu Pro and ARA. Timbuktu Pro does allow you to manually initiate an ARA connection from within the New Connection window, rather than hav-

See Timbuktu, Page 26

3D World

From previous page

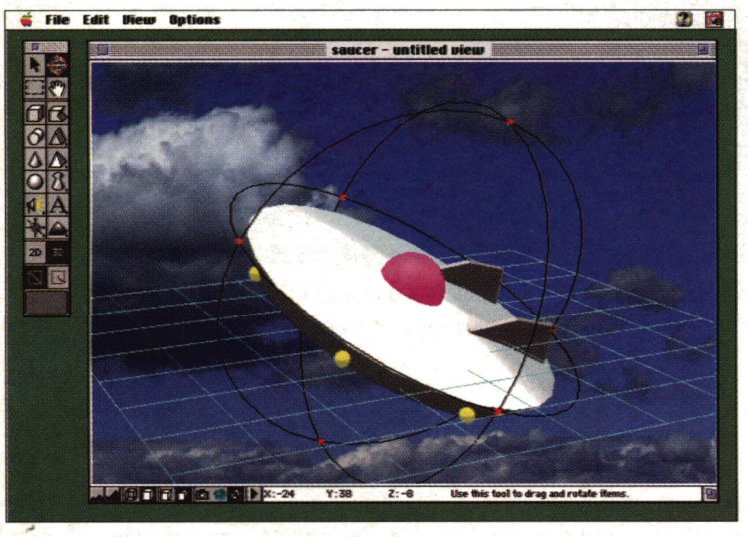
3DMF (3-D metafile format) and PICT file format — but you won't be able to distribute the audio-enabled files this way because sound is currently not a component of 3DMF. Background or foreground images as well as text can also be dragged and dropped into a scene.

Thanks to QuickDraw 3D, an object's color, transparency, shininess and reflectivity (which, unlike other 3-D programs, is really the diffuse levels of an object) can be altered on the fly. You can also view color maps in real time. Unfortunately, transparency can be enabled only if you have a QuickDraw 3D card installed.

3D World's Lights palette lets you create either point or spot lights in a 3-D scene, as well as adjust the color, brightness and shadow-casting capability of a light source.

Life signs weak

While 3D World offers features that will appeal to first-time users, it lacks capabilities that professionals and even some beginners will want. For instance, aside from simple walk-throughs and pans, there are no animation features, nor is there a way to export these simple movements, such as by creating a QuickTime movie. If your projects require more than basic movement, you'll have to export your models to another program.



Apple's QuickDraw 3D Interface Guidelines at work: Objects can be rotated or scaled using red control handles placed at key points around a 3-D bounding box.

In addition, professionals will find the modeling tools fairly primitive compared with those offered by other low-priced packages, such as Ray Dream Inc.'s $499 Ray Dream Studio (see 01.22.96, Page 67). The lack of high-end modeling features, such as 3-D text and lofting, will surely be missed.

Performance and rendering

We tested 3D World on a Power Mac 8500 with 30 Mbytes of RAM allocated to the application. The program performed well for the most part but acted sluggish when dragging and dropping some models from the Scrapbook or Librarian into the application.

While you can print a hard copy of your scene or save the image as a PICT file, the results might not be entirely desirable. This is because 3D World relies solely on the QuickDraw 3D rendering engine for creating final output. Since QuickDraw 3D uses Gouraud shading, color-mapped objects tend to look extremely blurry. Images also tend to have very jagged edges. Thus, a rendered image from 3D World is not suitable for most print or multimedia applications because of the low image quality.

3D World's smart drag-and-drop Librarian utility can catalog 3DMF, sound and PICT files in one database.

Plug-ins

3D World ships with a few plug-ins that create primitives such as a torus, or align a model or light source to a specific coordinate. Once you've registered your application, though, Microspot will send you the free 3D World Plug-ins Volume 1, which includes Mountain, a terrain gen-

See 3D World, Page 26

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Adobe PostScript

3D World

From Page 24

erator, and Walkthrough, a bare-bones animation extension.

The most useful of the lot is the Constructive Solid Geometries (CSG) plug-in, which is, in essence, a Boolean modeling tool. Unfortunately, it will work only with a QuickDraw 3D accelerator card installed. Another, albeit lesser, annoyance is that the plug-ins' interfaces don't follow the clean design of the application. Also, the on-screen prompts don't work with the plug-ins.

The 3D World manual is clear and easy to understand and provides good details on many of the program's features. Problems arise, however, when you get to the readme files included with the Volume 1 plug-ins, as they don't often do a good job explaining how the tools work.

Conclusions

3D World is an easy-to-use application of rather nebulous utility. We found it difficult to come up with several practical applications for the program.

> 3D World's street price will probably be in the double digits, which will be reason enough for some users to try their hand at modeling.

Its comfortable learning environment makes it a good training ground for newcomers to 3-D, but its modeling and rendering features are extremely limited.

For higher-end users, the poor image quality of the rendering engine and the dearth of animation and advanced modeling features relegates this application to possibly one use: as a previsualization tool. You can import more-complex models created in other programs and then place them and add lighting and rudimentary color mapping in 3D World. But why bother when you can do these tasks in a more full-featured 3-D program and then render the scene using a more sophisticated rendering engine?

3D World's street price, however, will probably be in the double digits, which is reason enough for some users to try their hand at modeling. Still, if you want to take full advantage of the program, you'll need to invest at least another $400 in a QuickDraw 3D accelerator card. For about the same amount of money, you could purchase Ray Dream Studio, a much more powerful modeler that also offers animation and can run on lower-end Macs. For now, we recommend investing a little more money in a more full-featured application.

Microspot USA Inc. of Saratoga, Calif., is at (408) 253-2000 or (800) 622-7568; fax (408) 253-2055; http://www.microspot.com. □

Timbuktu

From Page 23

ing to launch the ARA client application separately, but we'd be happier if selecting a remote host from an address book initiated the necessary ARA connection automatically and transparently. CE Software Inc.'s QM-Link for ARA (formerly ARA-QM) adds this capability to its QuickMail client software, so we know it's possible.

Since many users are likely to access host machines via more than one connection method, the new personal address book allows you to mix and match methods and offers a handy list of machines you might need to reach. Previous versions allowed you to save only a connection document that could be opened from the Finder, which wasn't nearly as convenient.

Coming home

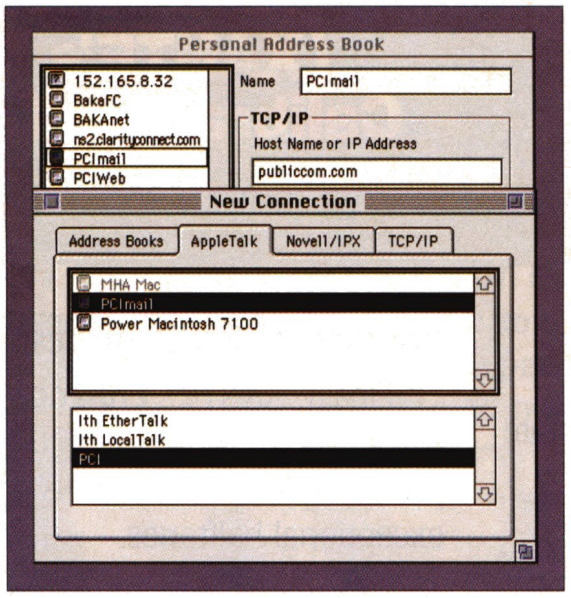
Mac purists often berate developers for allowing their products to sink to the lowest common denominator when offering cross-platform compatibility, but Farallon is certainly innocent of that charge.

Timbuktu Pro 2 sports one of the best implementations we've seen of System 7.5's Drag and Drop functionality. You can drag information about host computers between windows (such as from the New Connection window to an address book) or even to other applications. For example, you could drag connection information about your Mac into your favorite Drag and Drop-compliant e-mail software and mail it to anyone who might need remote access to your machine.

Timbuktu Pro 2's capability to control Windows-based computers is ideal for troubleshooting cross-platform network connections.

You can also drag items visible within a screen-sharing window (that is, residing on another computer) to your Finder or other applications and vice versa. Timbuktu will invoke the necessary exchange mechanisms (usually its own Exchange Files feature) to carry the file across the Timbuktu link. You can also drag files between the Exchange Files window and your desktop or other applications.

Another interface change is that Farallon has moved the program's familiar Control, Observe, Send and Exchange commands to a floating button bar similar to those in painting programs. In general these are fine, but in Timbuktu Pro the button bar gets in the way if you've got a host screen-sharing window open, and it's a pain to invoke a connection if the bar is closed. The good news is there are now keyboard equivalents for the various connection types, and the button bar can be reconfigured horizontally, vertically or without the text labels, so you should be able to find a location for it that is sufficiently out of the way, even if that's inconvenient.



The redesigned New Connection window in Farallon's Timbuktu Pro 2 lets you easily choose a connection method.

Considering that scripting is all the rage these days, we're surprised that Timbuktu Pro still lacks AppleScript and Apple-events capabilities. Imagine being able to get a quick screen glimpse of your computer via the Web, courtesy of an AppleScript CGI (Common Gateway Interface) added to StarNine Technologies Inc.'s WebStar, or being able to give Timbuktu the instructions it needs to restart your locked file server every night.

Getting there

Timbuktu used to feel sluggish when used to control another Mac over a LocalTalk network, but Farallon has long since improved the software's performance to the point where most LocalTalk or Ethernet connections between moderately fast computers feel quite smooth.

This means connections over long Internet distances or through low-speed network WAN links, or even using a 14.4-Kbps modem connection (whether with ARA, Serial Line Internet Protocol or Point-to-Point Protocol), will not be unbearable, as was the case a few years ago. Controlling a computer that lies beyond not only a 14.4-Kbps dial-up connection to the Internet but also a 56-Kbps WAN link does start to feel a bit slow, but we should hardly be surprised. We recommend a 28.8-Kbps dial-up link (using a V.34 modem) if you'll be using Timbuktu Pro by modem often or extensively.

Conclusions

If your job requires you to interact with Mac and Windows users, or with Mac- and Windows-based servers, Timbuktu Pro 2's capability to control any machine regardless of platform or protocol is unparalleled.

It's not always easy to advocate purchasing an upgrade, especially to users who are happy with what they have — and Timbuktu Pro 1 was a fine product. But Timbuktu Pro 2's built-in ARA client, IPX support and revamped interface offer enough new benefits to make the upgrade worth the effort. System 7.5 users certainly should upgrade, if only to take advantage of the new Drag and Drop capabilities.

For those considering a new purchase: If your office network spans more than one room, Timbuktu Pro can greatly help you control your servers and help your fellow users. If your office network spans more than one building or more than one continent, Timbuktu Pro is indispensable.

Farallon Computing Inc. of Alameda, Calif., can be reached at (510) 814-5100; fax (510) 814-5020. info@farallon.com; http://www.farallon.com. □

score card

Timbuktu Pro 2.0

Farallon Computing Inc.

Overall value ◆◆◆◆ **List price: $145***

Farallon scores again with Timbuktu Pro 2.0, an impressive update to its remote-control software that adds an integrated ARA client, Novell IPX connectivity and comprehensive drag-and-drop capabilities for System 7.5 users. The included ARA client software might seem outdated to Internet literati, but it still serves many corporate networks quite well. The ARA client could use a more transparent connection capability, and the new floating button bar is clumsy, but other than these minor complaints, this is a solid upgrade.

Performance ◆◆◆◆ **Ease of use** ◆◆◆◆
Features ◆◆◆◆ **Documentation/support** ◆◆◆◆

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Data Desk 5.0: A more useful data analysis tool

By Linda Custer

Templates, enhanced linear model and macro language star in new release.

Data Description Inc. has strengthened Data Desk 5.0, the company's data analysis and statistics program, with a new programming language and template tools that can help you organize and automate repetitive analyses. The $625 program specializes in providing a laboratory environment in which you can explore data sets using full-color 3-D graphics as well as traditional statistical methods.

While Data Desk may not be the best solution for low-end users, anyone who has outgrown the simple analyses of standard spreadsheets will benefit greatly after spending just a few hours learning its interface. The program's excellent integration of graphics and dynamic reports can help you understand causes and effects you might otherwise have missed.

Desk drawers

As in previous versions, Data Desk 5 includes a thorough, well-documented and proven set of statistical routines. You can generate a full complement of descriptive measures; frequency, contingency and confidence interval tables; nonparametric, correlation and regression tests; and clustering and principal components analyses. Data sets can be entered straight from the keyboard or can come from Data Desk files or imported text files. (One complaint: We wish we could import native Microsoft Excel files without having to save them as text.) Routines for ranking, transforming, grouping and sorting data are available as well.

Data Desk 5's new features greatly improve the program. A new macro language, called Action language, can be used to automate almost all Data Desk functions. Data Description calls Action language a visual programming tool, but it's really just a BASIC-like language in which all structures are chosen from predefined menus rather than typed into a text editor. Action language is extremely simple to learn and almost completely eliminates the opportunity for programming errors.

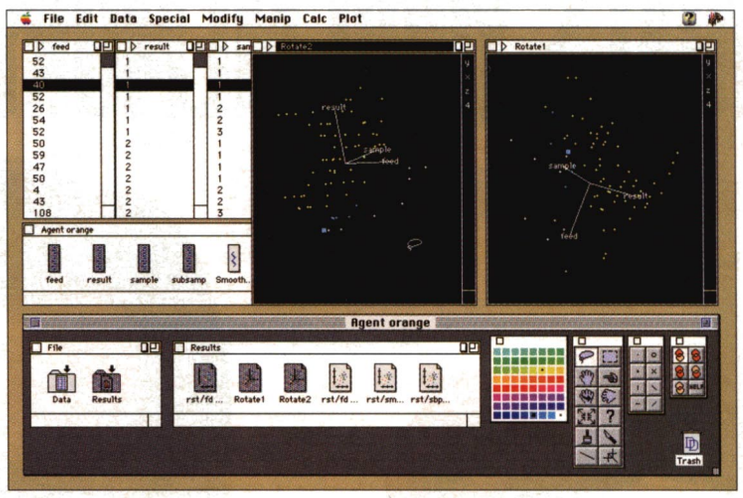
Also new are templates — collections of plots, tables or calculations — that you can use to hold a complete analytical scheme into which you can drop data for instant analysis. You can create your own templates, use the ones included with the program or download those being created by other users and uploaded to Data Description's Web site.

This release also features Corkboards, a new kind of window useful for grouping related objects, and a slide-show utility for bundling Data Desk objects and displaying them in sequence.

Data Desk's general linear model approach provides a framework for analyzing all problems that require multiple linear regression, correlation and univariate or multivariate analysis of variance and covariance. You can set up experimental designs in advance if desired to identify areas for improvement. Nonlinear modeling is also possible, as are several types of nonlinear smoothing.

The general linear model interface has been enhanced to handle binary dependent variables. It can now include logistic regression, probit, log-log and complementary log-log treatments in any general linear model analysis.

You can create color box plots, histograms, scatter plots, and 3-D dot and surface plots. The plots are dynamically linked to their associated data, so selecting or coloring plot points will select or group the corresponding row in the data table (and vice versa). This makes examining and understanding clusters in large data sets especially easy.



Two views of a 3-D plot in Data Desk 5 are visible here from different angles. Each point can be selected using various tools. Selected data points appear highlighted in the numerical listing.

All of these statistical routines are accessed through an unusual but effective interface that has remained essentially the same from version to version. Rather than the common spreadsheet row-and-column format, data is entered in aligned windows; each window contains only one variable in one column. All statistical reports and plots are saved in a results bin as they are created, providing a useful, automatic journal. Many Data Desk windows also have a right-pointing triangle next to the close box. Clicking on this triangle brings up a context-sensitive HyperView menu suggesting several actions that might be useful as a next step, such as producing a principal-components table or reorienting a graph.

> Data Desk is an excellent choice when sophisticated variance analysis is required.

Native, sort of

Data Desk ships on just two floppies and installs the same version of the program no matter what kind of Mac you have. At runtime, Data Desk dynamically determines the presence of a PowerPC processor or a math coprocessor and calls the optimum routines. Because of this, it will run on all Macs back to and including the Mac Plus, as long as at least 2 Mbytes of real RAM are available exclusively for Data Desk. (In practice, we would recommend at least a 68030 processor for all but the simplest tasks.)

Version 5 earned Apple's "Accelerated for Power Mac" logo, but only the most calculation-intensive sections of the program — routines dealing with vectors and some graphics — have been written to take advantage of the PowerPC. (It does not contain the data fork and the cfrg resource characteristic of native Power Mac programs.) We had no complaints about its speed on moderately large data sets with or without a Power Mac but imagine it could be an absolute screamer if it were wholly converted to native Power Mac code.

Documentation and support

On-line help is available from a companion hypertext viewer installed with Data Desk. This program operates in a similar manner as the help system built into Microsoft Windows 3.1, with both contents and index screens and a keyword search function but without active assistance à la Apple Guide. It provides answers to simple questions about the user interface; however, information on specific statistics functions and many other subtleties of the program are provided only in the abundant written documentation.

Numerous templates that install automatically with the program can teach the Action language and other advanced program features by example. Data Description also has an Internet mailing list to put users in touch with other users. Friendly and knowledgeable telephone help is available during business hours. When we called the main number to ask a rather technical question, we spoke directly with someone who could answer it; we didn't even have to deal with an automated voice-mail system. Details on the mailing list, as well as a downloadable, fully functional demonstration copy of Data Desk, are available at the Data Desk Web site.

Conclusions

Data Desk 5 is a powerful, well-supported package for investigating and analyzing data. Because its interface might be a bit quirky at first to those used to a spreadsheet environment, it's not the best choice for those whose data analysis needs rarely go beyond very simple regression and variance tests. However, a small investment in time to learn the program's capabilities can pay off whenever a path of analysis is not clear beforehand or when you need to investigate several types of interactions. Data Desk is also an excellent choice when sophisticated variance analysis is required.

With full 3-D plotting, analysis templates and complete multivariable analysis of variance, Data Desk compares well with other similarly priced data analysis programs in the Mac market. Version 5's new features, particularly the Action language and templates, make it well worth it for current users to upgrade.

Data Description Inc. of Ithaca, N.Y., can be reached at (607) 257-1000; fax (607) 257-4146; salesinfo@datadesk.com; http://www.datadesk.com/datadesk. □

score card

Data Desk 5.0

Data Description Inc.
List price: $625*
Overall value ◆◆◆◆

The addition of a macro language, templates for repetitive analyses, new interface tools to group and display plots and tables, and enhancements to general linear model analysis lend substantial value to Version 5 of Data Description's powerful statistics package. Data Desk already boasted well-coordinated and full-featured 2-D and 3-D plotting, excellent tools for variance analysis, and an interface that encourages data exploration; the new version expands these features and makes them easier to automate. The program is fast, but we wonder how much faster it would be if it were fully Power Mac-native. We also wish it would import native spreadsheet files rather than text-only files. But these are only minor blemishes on an otherwise very capable program.

Performance ◆◆◆◆
Features ◆◆◆◆
Ease of use ◆◆◆
Documentation/support ◆◆◆◆

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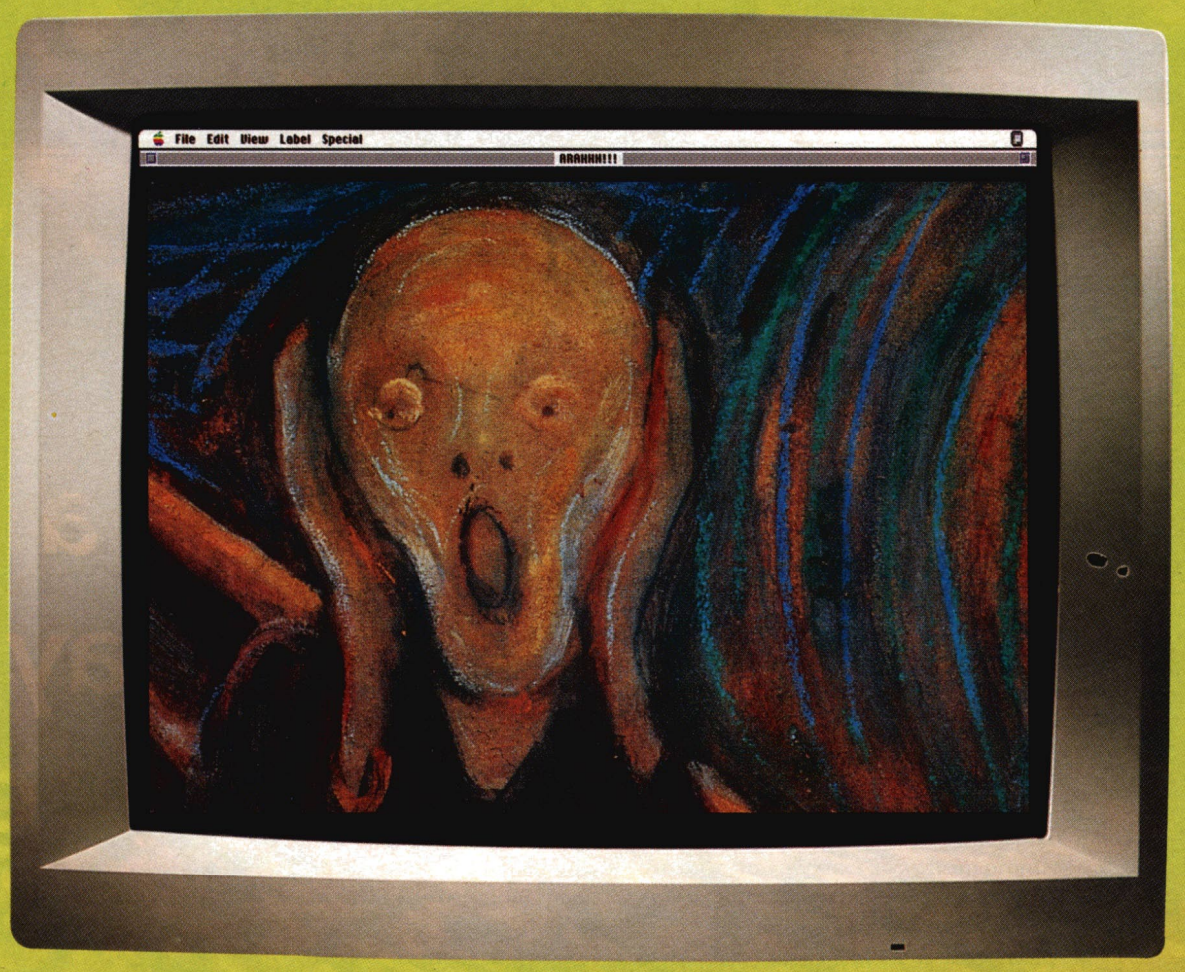

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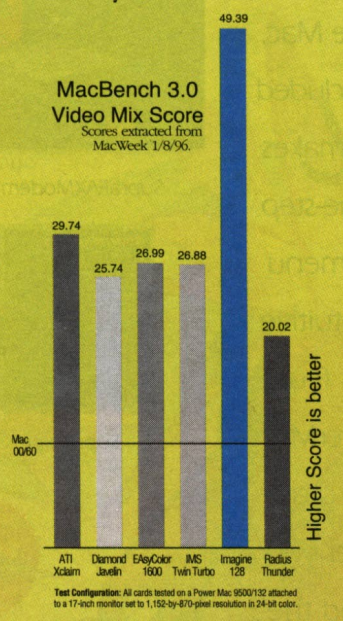

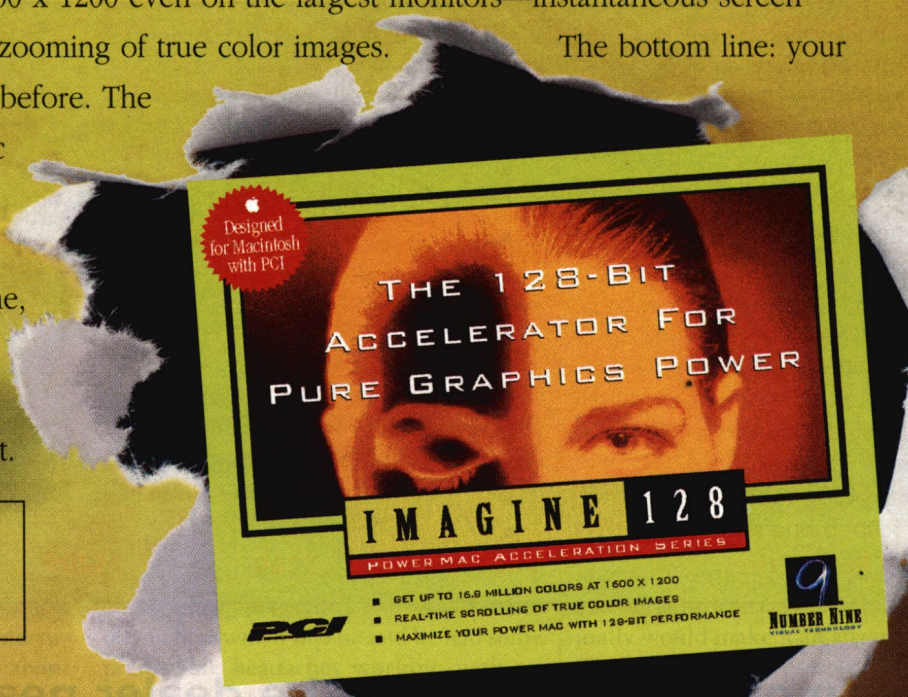
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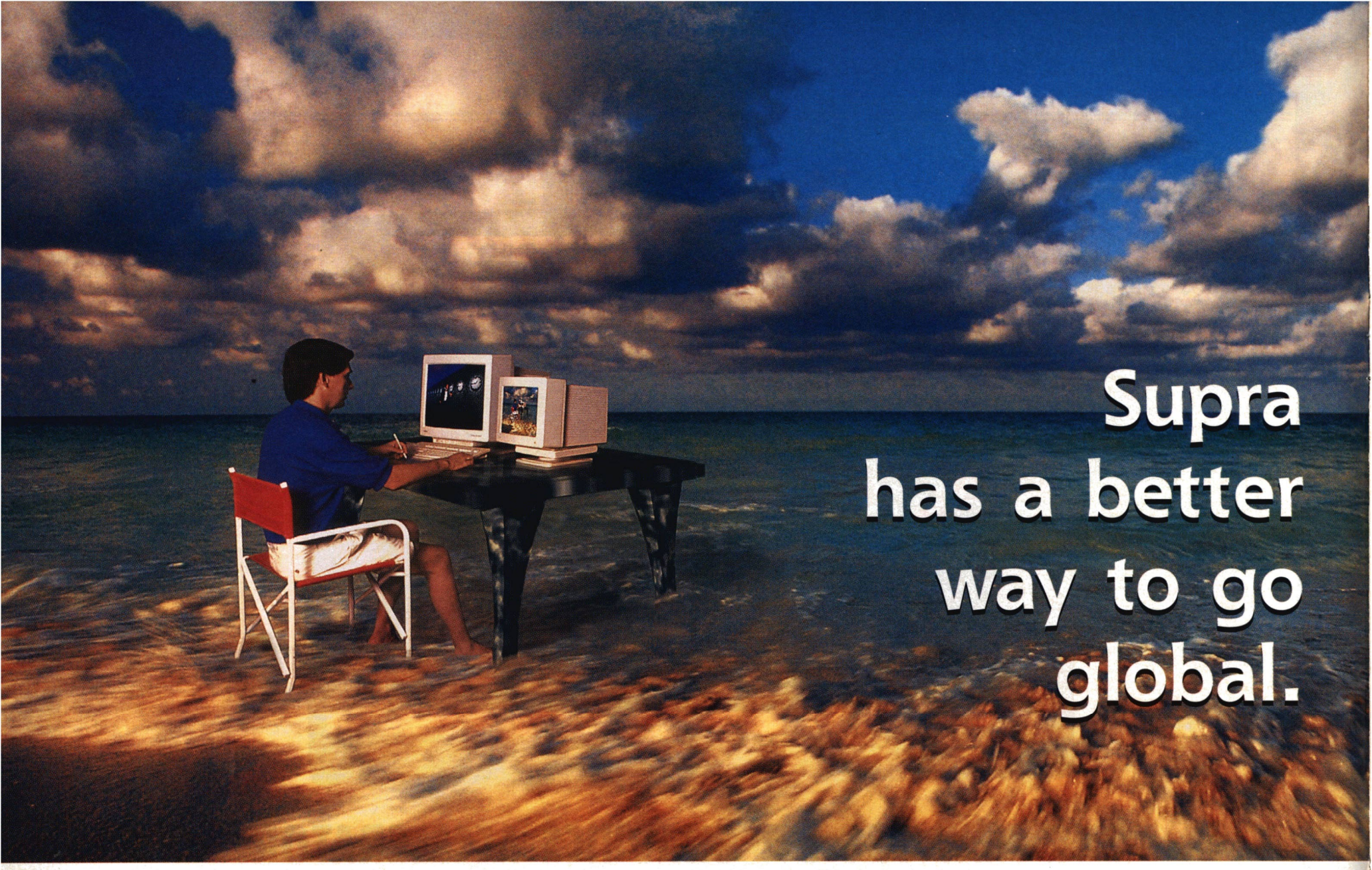

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PARTS IS PARTS

The market for component software will reach $1.65 billion by the year 2000.

— Dream IT Inc.

DEVELOPMENT TOOLS

High hopes, deep anxiety dog OpenDoc developers

Absence of cross-platform versions, Apple enthusiasm, better tools are chief concerns.

By April Streeter

Apple's release of the OpenDoc Software Development Kit last November stimulated a good number of component-development projects, which will likely be released to the market this summer. While developers complain that the current OpenDoc tool set has its weaknesses, they are more concerned about the future of the technology.

"Our main focus is component software, and OpenDoc is what we're using. It's the best out there," said Neal Williams of start-up development company C-Ware Inc. of Highland, Utah. Williams said he plans to release an OpenDoc graphing component and a table-construction component by late summer.

"As a small developer, I really feel OpenDoc gives me the opportunity to go it alone and compete [with larger developers]. There's no way I could do that if I had to develop entire applications," Williams said.

Many developers, large and small, worry that neither Apple nor many high-profile Macintosh vendors are getting behind OpenDoc to the extent that is needed to make it a long-term success in the Mac marketplace. OpenDoc must also compete in the Windows-dominated, OLE-oriented cross-platform landscape. Even with IBM Corp. working to get Windows 95 and OS/2 OpenDoc SDKs out this year — and Component Integration Labs evangelizing the overall OpenDoc environment — developers are anxious that OpenDoc could follow a long line of snazzy Apple-initiated technologies into the software graveyard.

"I personally am worried," said John Deal, director of product development at Lizard Tech, a Macintosh developer based in Santa Fe, N.M. "I just haven't seen the fanfare and support I expected."

Deal said he considers himself to be an OpenDoc "poster child," having aided Apple in numerous evangelizing events, but he feels the company must redouble its efforts to get a critical mass of developers involved in OpenDoc component and container development. "Most of the OpenDoc development I've seen so far is unfortunately not about consumer products. I think Apple needs to be much more vocal and let people know OpenDoc is here and that it's actually usable."

BUD PEEN

Deal and most other developers would get a morale boost if a mainstream vendor, especially a company such as Claris Corp., committed to a ClarisWorks-style OpenDoc container that parts could plug into. But while Claris said it is committed to shipping one OpenDoc part in this calendar year, the company shies away from promising an OpenDoc-enabled ClarisWorks. "We're investigating it, and we're betting on the fact that OpenDoc is important," said spokesman Steve Ruddock. "We're not quite ready to say anything more."

While developers laud Apple's effort to get Cyberdog — the code name for its OpenDoc-based suite of Internet components — into customers' hands, there is clearly the perception by some developers that while Cyberdog shows off what OpenDoc can do, it doesn't meet the requirement for a mainstream container.

"The Cyberdog stuff is neat, but can OpenDoc go up against Netscape [Communications Corp.] with Java plug-ins? That's pretty hard," said Will Iverson, Mac developer tools evangelist at Symantec Corp. in Cupertino, Calif. Iverson, who promises that Symantec's TCL development tool will have support for OpenDoc container creation sometime this year, also said he believes mainstream parts are imperative.

"I think it will still be a while before OpenDoc gains acceptance. The classic example: decent OpenDoc text or graphics editors. Where's the MacDraw and the MacPaint of the OpenDoc world?," Iverson said. "It seems we're at an important nexus point."

Getting real

OpenDoc is a big shift from the traditional application-development paradigm, a shift that provides abundant new opportunities to smaller developers such as C-Ware's Williams. He worked on the OpenDoc team for the WordPerfect division of Novell Inc. until he decided last year to strike out on his own. While he said he had some predictable headaches working with an environment as new as OpenDoc, overall he's fairly pleased with the results and has a lot of ideas for other components he'd like to develop.

"How I see it is we'll develop these nice

See Solutions, next page

GORDON STUDER

MACINTOUCH

RIC FORD

Host of quality problems raises user concern

Connectix Corp. recently identified a serious problem triggered by Speed Copy 1.1 (and earlier versions) running with the current AppleShare client software, Version 3.6.1. This combination invisibly corrupts files copied across a network from a shared volume. AppleShare 3.6.1's code has the potential to cause problems with other Finder utilities as well.

Until a fix is released, the work-arounds are to disable Speed Copy or to revert to Version 3.5 of the AppleShare client software. The AppleShare code is contained in the Chooser extension named AppleShare, located in the Extensions folder. (Use Get Info in the Finder to identify the file's version number.) AppleShare client 3.5 is part of System 7.5 and may be installed by dragging it into place.

The AppleShare 3.6.1 client, a recent update, fixes bugs with virtual memory and with incorrect error codes, which normally would make it an attractive update. This version also uses special tricks to speed Finder copying, working in conjunction with Apple's latest Mac OS releases: System 7.5.1 and later, plus Network Software Installer 1.5 and later.

The problems arise from these perfor-

See MacInTouch, next page

SOLUTIONS

From previous page

components and then find bundling deals with the more monolithic, OpenDoc-enabled applications," Williams said. He hopes he'll never have to shrink-wrap his components or develop a distribution channel, counting instead on bundling deals or Internet-based distribution schemes.

"That way I can focus on our areas of expertise, and the end result is a higher quality of software all around," he said.

That's the vision, but Williams admits it might take a while for reality to catch up. "The first year is going to be pretty lean," he said. "I expect 1997's going to be good, though."

Like Williams, developer Hans Martin Kern of the theta group of Karlsruhe, Germany, said he feels that OpenDoc provides new development opportunities. As the European developer for dtF Americas Inc. of Cupertino, Calif., Kern used OpenDoc to build a database tool kit that will help users scoop SQL data from dtF's proprietary database and, eventually, Oracle Corp. and ACI US Inc. relational database-management systems, using OpenDoc parts.

"OpenDoc makes new types of applications possible," Kern said. "The integration of our parts with other third-party containers and parts wouldn't be possible with another paradigm." theta will convert dtF's entire product suite to OpenDoc parts, and it said it also has plans for a range of database components. "OpenDoc allows us to focus on our technological strengths," Kern said.

In working with OpenDoc to develop the dtF Toolkit, Kern said he found the API easy to work with, and he was pleased with the level of technical support he has received from Apple, a piece of praise echoed by many developers. On the other hand, Kern was critical of the environment.

"The lack of a decent object-oriented framework — ODF [OpenDoc Development Framework] isn't yet full-functioned — and full-blown graphical user interface builder ... at this point forces us to code directly to the Mac Toolbox, which is more time-consuming and not portable to other platforms," he said. "The lack of a working 68K development tool except MPW [Macintosh Programmer's Workshop] was also a difficulty for us."

While Apple has implied that OpenDoc simplifies software development, it doesn't necessarily follow that OpenDoc tools are simpler to use. John Hall, a technical staff member at the Los Alamos (N.M.) National Laboratory, has developed in OpenDoc since usable betas were released and thinks a key to the environment's success is an easy-to-use tool.

"OpenDoc really requires you to be a fairly good programmer," Hall said. "The tools are all new, and the environment's complex. What's needed is a tool that's like [Microsoft Corp.'s] Visual Basic. Otherwise the average developer will have a hard time being an OpenDoc programmer." Hall said he hopes a third party or perhaps Apple and IBM (with the Denali project) will fill this gap. Apple's willingness to release source code to developers who request it should help circumvent some OpenDoc debugging problems, Hall said. Although Apple engineers said the source code would be available through upcoming OpenDoc releases, Product Manager Gina Centoni said it is available now to those who request it.

Apple's willingness to release source code to developers should help circumvent some OpenDoc debugging problems.

Every developer has pet peeves about OpenDoc, and numerous issues remain to be resolved, such as intercomponent communication and how SOM (System Object Model) will help components work in network environments. Yet developers concur that Apple's component architecture is richer than the one currently viable alternative — Microsoft's OLE.

At the same time, developers are fervently hoping for the capability of OpenDoc components to seamlessly interoperate with OLE objects and OpenDoc's success in the Windows and Unix spaces. ComponentGlue, which lets OpenDoc components and OLE objects be used interchangeably, is still on track for delivery for the Mac platform this summer and the Windows environment this fall, in time for the OpenDoc for Windows tool kit.

Deal at Lizard Tech, developer of Fast Eddie image compression software, has worked on a number of OpenDoc components, including the Mr. Sid image-compression component included on a recent OpenDoc developer release. "We're really depending on the cross-platform nature of OpenDoc," Deal said. "We're a Mac house and we'd prefer to do our development in OpenDoc. But I can't tell you how vital the Unix and Windows implementations are going to be for us. That's what the people using our [image-compression] tools have on their desktops."

Cross-platform crux

Sean Flaherty, vice president of engineering at Graphsoft Inc. in Columbia, Md., said the cross-platform success of OpenDoc will determine whether MiniCad, Graphsoft's popular CAD program, will be transformed into a component at all. "We've got something of an aging core in our application currently, so it would take us quite a long development time to turn MiniCad into a good OpenDoc part," Flaherty said.

Currently, Graphsoft plans to make a fall release of MiniCad 7 into an OpenDoc container application. "If we do choose to be a part, it would be because of cross-platform issues," Flaherty said. "We don't have MiniCad in Windows yet, and we'd like to switch to a platform-generic interface and rewrite [MiniCad's] building blocks in OpenDoc for both environments. Of course, this depends on how OpenDoc is doing once we have our fall release."

Flaherty said he feels there's still quite a bit of apprehension in the Mac developer community, and while OpenDoc is the horse everyone wants to bet on, hope is tempered with uncertainty. Lizard Tech's Deal agrees. "There's a lot of positive things about OpenDoc," he said. "It's an Apple thing; it helps us get out a proof of concept on our development ideas in a couple of days; it lets us get to market fast; and there's the portable aspect."

But, he added, "We still need more assurances. We've stuck our necks out for OpenDoc. We've bet the farm. It may be a small farm, but it's ours." □

MACINTOUCH

From previous page

mance tweaks. AppleShare 3.6.1 grabs extra memory during Read operations when copying in the Finder, and this undocumented behavior juggles memory behind the backs of other programs, such as Speed Copy. If programs running inside the Finder lose track of their own memory buffers, corrupted data is the result.

By the time you read this, Connectix may have a patch to address the issue with Speed Copy at http://www.connectix.com/. Other Speed Doubler components are not involved. But it remains to be seen whether Apple will address the issue on its end. There is no indication that the upcoming System 7.5.3 will do so.

AppleShare problems are not confined solely to the client end. AppleShare 4.2, the server, has a major security bug, which is addressed by a queerly numbered fix. (Apple seems to have problems following its own version-numbering standard.)

The AppleShare 4.2 to 4.2 v1.0.2 Patch fixes several problems with the server, but the worst of these is a security hole that allows any program except the Finder to change files on a server volume even if Make Changes permission is turned off. (See Folders and See Files permissions must be turned on, according to the documentation, to open the security hole.)

One wonders what kind of quality control is taking place at Apple today.

Quality is Job Zero

One can only hope that Apple's new boss will bring back some of the company's traditional quality control. The map of current hardware and software minefields is disturbing:

- Open Transport releases through Version 1.0.6 were buggy and incompatible. Open Transport 1.0.7 and 1.0.8 work more successfully but should be supplanted at the end of this month by Open Transport 1.1.
- System 7.5.2's original printing software did not work. The 7.5.2 Printing Update 1.1 helps considerably (see 12.04.95, Page 52), but it updates only Apple's printer drivers, not third-party drivers.
- Ethernet Built-in 1.0.2 fixed some, but not all, software bugs (see 01.15.96, Page 33 and 01.08.96, Page 97). Power Mac 7200/90 models with Ethernet hardware defects are still being delivered to buyers (see 12.04.95, Page 52).
- SerialDMA 2.0.2 replaces a buggy serial driver in the PCI models but does not address the problem of running LocalTalk simultaneously with the GeoPort Express Modem.
- Problems with cache cards in the Power Mac 7500 continue to haunt users. Apple's 256-Kbyte DIMM (dual in-line memory module) appears to work successfully, while third-party cards work in some 7500 boxes and not in others.
- Reader feedback paints AppleVision 1710AV monitor quality as disastrous (see 12.04.95, Page 52, and 11.06.95, Page 44). Macintosh troubleshooting expert Ted Landau is working on his fourth defective monitor; other readers report similar failures.
- Video hardware defects in Performa 5200 models echo the 1710AV problems.
- Defective CPUs in Macintosh 52xx and 6200 models are readily identified with the help of a utility program. A sound hardware defect in the same series at times has been disputed and at other times fixed by Apple (see 12.11.95, Page 64).
- PowerBook 5300 laptops take the cake for quality problems (see 12.11.95, Page 37). Defective hardware still seems to be reaching buyers, causing crashes and freezes. Apple's Drive Setup 1.0.3 should prevent freezes on wake-up. The recent system software update may add problems not present in the original software. □

Comments on MacInTouch are welcome at (508) 897-2621. Please address e-mail to 72511,44 on CompuServe or ricford@macintouch.com on the Internet. The MacInTouch home page is at http://www.macintouch.com/~ricford/.

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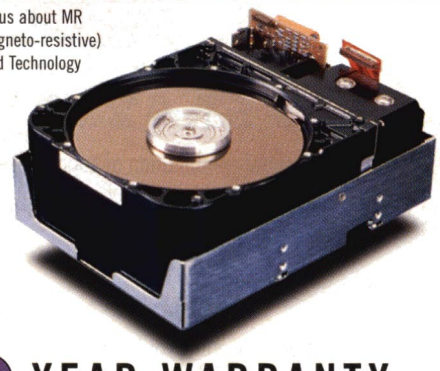

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Fujitsu m1606s	1.2GIG	LP	10MS	5400	$ 299	$ 369
Seagate ST31230N	1.2GIG	LP	9MS	5400	$ 409	$ 475
Seagate Hawk	2.4GIG	LP	9MS	5400	$ 655	$ 725
Conner CFP2105S	2.1GIG	LP	9MS	5400	$ 585	$ 655
Fujitsu M2915S	2.1GIG	MR	8.9S	7200	$ 699	$ 799
Conner CFP2107S	2.1GIG	LP	8MS	7200	$ 759	$ 829
Quantum Capella	2.2GIG	LP	8.6MS	5400	$ 699	$ 799
Seagate Barracuda 2	2.5GIG	LP	8MS	7200	$ 815	$ 885
Seagate Barracuda 2W	2.5GIG	LP	8MS	7200	$ 939	$ 999
Conner CFP2107W	2.5GIG	LP	8MS	7200	$ 795	$ 895
Fujitsu m2934s	4.2GIG	MR	8MS	7200	$ 1125	$ 1195
Fujitsu m2934W	4.2GIG	MR	8MS	7200	$ 1175	$ 1275
Seagate Barracuda 4	4.1GIG		8MS	7200	$ 1295	$ 1365
Seagate Barracuda 4W	4.1GIG		8MS	7200	$ 1365	$ 1435
Seagate ST15230N	4.3GIG		9MS	5400	$ 999	$ 1099
Conner CFP4207S	4.2GIG		9MS	7200	$ 1045	$ 1115
Conner CFP4207wide	4.2GIG		9MS	7200	$ 1099	$ 1199
Atlas XP34300s	4.3GIG		8.6MS	7200	$ 1099	$ 1169
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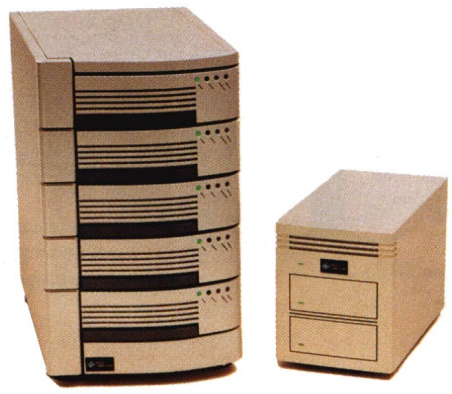

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-10GIG	Exabyte 8505S	8MM	$ 1475	$ 1575
-30GIG	DLT2000XT	1/2"		$ 3595
-40GIG	DLT4000	1/2"		$ 5499
-140GIG	Exabyte-10h Library	8MM		$ 4999
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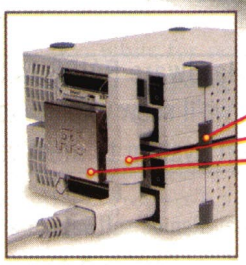

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APS I 1080 IBM DPES 31080	**1034MB** 5400 rpm		239.95	339.95
APS Q 1080 Quantum 1080 Fireball	**1042MB** 5400 rpm	◆◆◆◆ MacWEEK; MacUser ZD LABS ★★★★	269.95	349.95
APS Q 1280 Quantum Fireball II 1280	**1222MB** 5400 rpm		299.95	399.95
APS I 2160 IBM Ultrastar ES	**2063MB** 5400 rpm		499.95	599.95
APS MS 2000 Micropolis 4421	**1955MB** 5400 rpm		549.95	649.95
APS Q 2210 Quantum Capella VP32210	**2103MB** 5400 rpm	MacUser ZD LABS ★★★½	629.95	699.95
APS ST 4200 Seagate ST 15230N Hawk	**4094MB** 5400 rpm	MacUser ZD LABS ★★★★	899.95	999.95

APS HIGH-PERFORMANCE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0 Micropolis 4221	**1955MB** 7200 rpm	MacUser ZD LABS ★★★½	$599.95	$699.95
APS Q 2.0 Quantum Atlas XP32150	**2050MB** 7200 rpm	MacUser ZD LABS ★★★★	799.95	899.95
APS ST 2.0 Seagate ST 32550N Barracuda	**2047MB** 7200 rpm		799.95	899.95
APS MS 4.0 Micropolis 3243	**4064MB** 7200 rpm	MacUser ZD LABS ★★★★	999.95	1099.95
APS Q 4.0 Quantum Atlas XP34300	**4101MB** 7200 rpm	◆◆◆◆ MacWEEK; MacUser ZD LABS ★★★★½	1199.95	1299.95
APS ST 4.0 Seagate ST 15150N	**4094MB** 7200 rpm	MacUser ZD LABS ★★★½	1199.95	1299.95
APS MS 9.0 Micropolis 1991	**8669MB** 5400 rpm		1999.95	2199.95
APS ST 9.0 Seagate ST410800N	**8669MB** 5400 rpm		2199.95	2399.95

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Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0AV Micropolis 4221AV	**1955MB** 7200 rpm		$699.95	$799.95
APS MS4.0AV Micropolis 3243AV	**4064MB** 7200 rpm		1099.95	1199.95
APS MS9.0AV Micropolis 1991AV	**8669MB** 5400 rpm	MacUser ZD LABS ★★★★	2099.95	2299.95

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Model	Capacity/Features	Awards	Internal	SR2000
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APS Q 2.0W Quantum Atlas XP32150W	**2050MB** 7200 rpm		899.95	999.95
APS MS 4.0W Micropolis 3243W	**4064MB** 7200 rpm		1099.95	1199.95
APS Q 4.0W Quantum Atlas XP34300W	**4101MB** 7200 rpm		1299.95	1399.95

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Model	Capacity/Features	Awards	Internal
APS I 1.2 IBM Travelstar XP	**1215MB*** 4900 rpm		$699.95

**Manufacturer's specifications.*

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Model	Capacity/Features	Awards	Internal
APS 170 PB Avatar mechanism	**170MB per cartridge** Each cartridge only $49.95		$399.95
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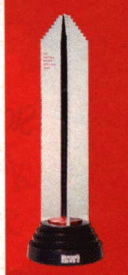

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APS SQ 3270 Our best performing removable cartridge drive	255MB	MacUser ZD LABS ★★★★½	N/A	349.95*
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Model	Features	Awards	Internal	SR2000
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APS PD4 600MB optical storage with 4X CD-ROM in one device	CD/MO Combo		N/A	599.95
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Model	Capacity/Features	Awards	Internal	SR2000
APS HyperQIC™ QIC 3080 Mechanism	2GB	MacWEEK ◆◆◆◆ MacUser ZD LABS ★★★½	N/A	$499.95
APS DAT DDS-2 Non-Compression Mechanism	2GB		$649.95	699.95
APS HyperDAT DDS-2 Compression Mechanism	8GB		849.95	899.95
APS DATLoader600 Ideal for unattended large network backups	48GB		N/A	2499.95

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Model	Capacity/Features	Awards	SR2000
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Model	Capacity/Features	Awards	Internal	SR2000
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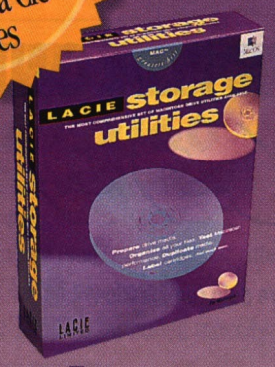

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2160MB Ultrastar ES	5400 rpm	3 yr. warr.	$669
2210MB Quantum Capella	5400 rpm	5 yr. warr.	$679
4.3GB Quantum Atlas	7200 rpm	5 yr. warr.	$1199

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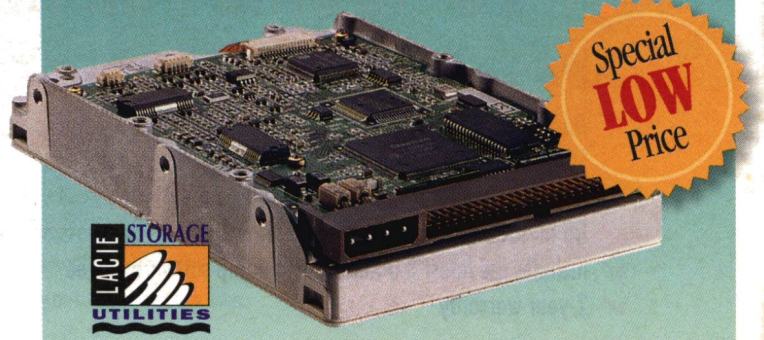

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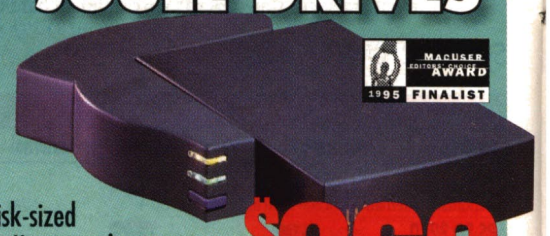
PORTABLE JOULE DRIVES

LACIE STORAGE UTILITIES



MACUSER EDITORS' CHOICE AWARD 1995 FINALIST

- Share hard disk-sized files with diskette convenience.
- Docking provides new security and backup solutions.

$369 Joule 1 GB

3.5" Hard Drives		
850MB Quantum Trailblazer	3 year warranty	$329
1080MB Quantum Fireball	3 year warranty	$369
2210MB Quantum Capella	5 year warranty	$799

Joule Bases – Supports Stacks Up To 6 Drives High		
850MB Quantum Hard Drive	3 year warranty	$389
1080MB Quantum Hard Drive	3 year warranty	$429
230MB Optical	1 year warranty	$529
270MB SyQuest	1 year warranty NEW!	$479

Joule RAID			
Quantum drives bundled with Trillium Research Software configurable to levels 0, 1, 4 & 5.		RAID Drives only	RAID with SCSI CARD
4.2GB	3 year warranty	$1999	$2299
8.4GB	3 year warranty	$3499	$3799
16.8GB	3 year warranty	$6999	$7299
25.8GB	3 year warranty	$9999	$10299

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International 503-520-9000
Fax 503-520-9100 (24 hrs.)
http://www.lacie.com/~lacie

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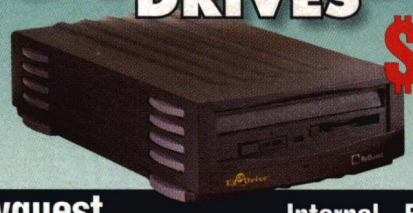
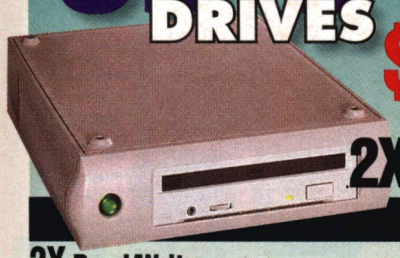
SYQUEST DRIVES



$229 EZ135

Syquest		Internal	External	Cartridge
EZ135MB	Includes **FREE** cartridge 2 year warranty		$229	$19.95
200MB	1 year warranty	$319	$369	$79
270MB	1 year warranty	$329	$399	$59

CD-R DRIVES



- CD-Rs ship with Gear Multimedia software.
- Low cost media for backup.
- Create your own CD with fast write capability.

$1099 2X Read/Write

2X Read/Write		$1099
2X Read/Write Yamaha	NEW!	$1199
4X Read/Write Yamaha	NEW!	$2399

OPTICAL AND DAT DRIVES

LaCie Storage Utilities

- Optical is the new standard in removable reliability.
- DAT – The ideal medium for data backup.

$1999 2.6GB Optical

Other Optical		
230MB PowerBook Internal	1 year warranty	$399
230MB Internal	1 year warranty	$399
230MB External	1 year warranty	$469
230MB Optical Cartridge		$19.95
2.6GB External	1 year warranty	$1999
2.6GB Optical Cartridge		CALL

DAT Drives Includes Retrospect	Internal	External
8.0GB Internal DAT DDS-2	$799	$899
8.0GB Turbo DAT DDS-2	$1099	$1149

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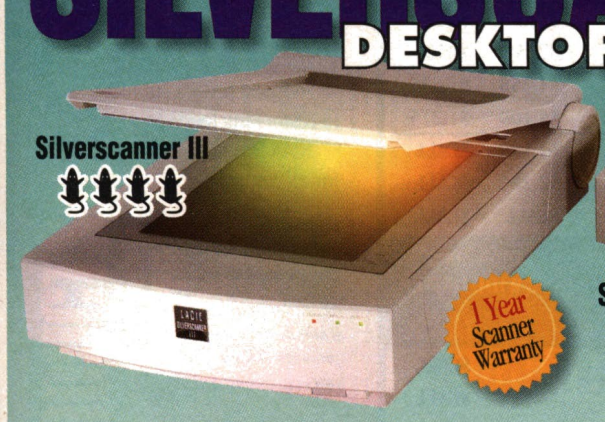
offers

award-winning customer support

- 30 Day Money Back Guarantee
- Toll Free Technical Support
- Factory Direct Quality & Value
- Ready to Plug And Play

SILVERSCANNER DESKTOP SCANNERS



1 Year Scanner Warranty

Silverscanner DTP Complete
Desktop color, 400x800dpi interpolated to 3200 dpi.
- Photoshop LE
- Read-It Pro OCR
- Silverscan

$899

Silverscanner III Package 1
Pro color, 600x1200dpi interpolated up to 4800 dpi.
- Color It!
- Read-It Pro OCR
- Silverscan

$1499

Silverscanner III Package 2
Pro color, 600x1200dpi interpolated up to 4800 dpi.
- Photoshop (full)
- Read-It Pro OCR
- Silverscan

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Scan names, addresses, phone numbers and logos for quick access, then export to your favorite contact management software.

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DIRECTTech SYSTEMS INC.

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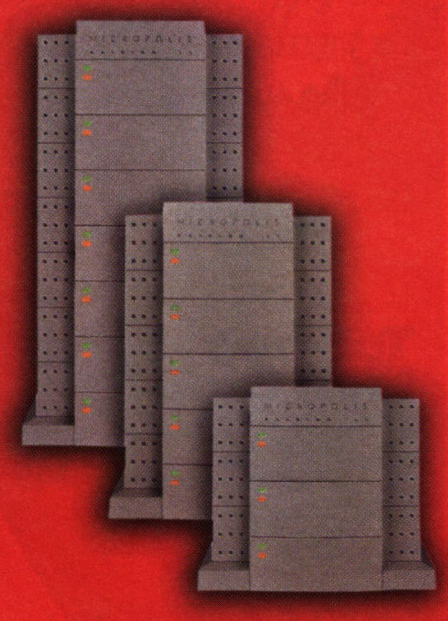
YOUR #1 SOURCE FOR STORAGE

CALL FOR LATEST PRICES

THE (STACKABLE) PHASER LINE OF ENCLOSURES, FEATURING ACTIVE TERMINATION

THE DIRECTTECH ADVANTAGE!

All Phaser-I Enclosures feature ACTIVE Termination, the latest in termination technology. Put an end to your SCSI headaches. DIRECTTECH'S active termination monitors and regulates your SCSI chain and eliminates any termination problems.



MICROPOLIS MICRODISK LT & LS

THE STACKABLE, REMOVABLE DRIVE SUBSYSTEM

Model #	Capacity
MDLT2100/AV	2.1 GB
MDLT4300/AV	4.3GB
MDLS9100/AV	9.1GB

NOW AVAILABLE IN FAST/WIDE CONFIGURATION.
ASK ABOUT THE MICRODISK RAID 5 ARRAY!

CALL FOR LATEST PRICING AND CONFIGURATION.

HARD DRIVES

ALL DRIVES ARE PREFORMATTED, TESTED AND PACKAGED WITH SCSI MANAGER 4.3 COMPATIBLE DRIVERS. EXTERNAL DRIVES INCLUDE CHOICE OF 25-50 OR 50-50 PIN CABLE.

Capacity	Model No.	Mechanism	Seek	Warranty	Internal	PHASER-I
420 MB	DT-420TB	Quantum	11ms	2 yrs	$150	$225
850 MB	DT-850TB	Quantum	11 ms	2 yrs	$199	$275
1.0 GB	DT-1080FB	Quantum	11ms	3 yrs	$275	$350
1.05 GB	DT-31230	Seagate NEW LOW PRICE!	9.0 ms	5 yrs	$380	$455
2.0 GB	DT-4221	Micropolis NEW LOW PRICE!	8.0 ms	5 yrs	$685	$760
2.0 GB	DT-32150	Quantum -Atlas	8.5 ms	5 yrs	$895	$970
2.0 GB	DT-2490	Hewlett Packard	9.0 ms	5 yrs	$1,100	$1,185
2.1 GB	DT-32550	Seagate Barracuda II NEW LOW PRICE!	8.0 ms	5 yrs	$775	$850
4.3 GB	DT-3243	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$1,025	$1,099
4.3 GB	DT-15150	Seagate Barracuda NEW LOW PRICE!	8.0 ms	5 yrs	$1,199	$1,275
4.3 GB	DT-4280	Quantum	8.0 ms	5 yrs	$1,025	$1,100
9.0 GB	DT-1991	Micropolis NEW LOW PRICE!	12 ms	5 yrs	$1,950	$2,050
9.0 GB	DT-410800	Seagate Elite 9 NEW LOW PRICE!	11 ms	5 yrs	$2,025	$2,125

AUDIO/VIDEO TUNED DRIVES

DIRECTTECH SYSTEMS IS AN AUTHORIZED A/V PARTNER WITH SEAGATE AND MICROPOLIS.

Capacity	Model No.	Mechanism	Seek	Warranty	Internal	PHASER-I
1.05 GB	DT-31230AV	Seagate	9 ms	5 yrs	$380	$455
2.0 GB	DT-4221AV	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$735	$810
2.1 GB	DT-32550AV	Seagate Barracuda	8.0 ms	5 yrs	$775	$850
4.3 GB	DT-3243AV	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$1,075	$1,150
4.3 GB	DT-15150AV	Seagate Barracuda	8.0 ms	5 yrs	$1,199	$1,275
9.0 GB	DT-1991AV	Micropolis NEW LOW PRICE!	12 ms	5 yrs	$2,050	$2,150
9.0 GB	DT-410800AV	Seagate Elite 9 NEW LOW PRICE!	11 ms	5 yrs	$2,025	$2,125

FAST/WIDE SCSI DRIVES

MOST EFFECTIVE WHEN COMBINED WITH A FAST/WIDE ATTO BOARD. CALL FOR SPECIAL CONFIGURATIONS!

Capacity	Model No.	Mechanism	Warranty	Internal	PHASER-I
2.1 GB	DT-32550W	Seagate Barracuda 2LP Wide	5 yrs	$835	$910
2.1 GB	DT-4221W	Micropolis 4221Wide	5 yrs	$775	$850
4.3 GB	DT-15150W	Seagate Barracuda 4 Wide	5 yrs	$1,250	$1,325
4.3 GB	DT-3243W	Micropolis 3243Wide	5 yrs	$1,100	$1,275
9.0 GB	DT-1991W	Micropolis 1991Wide	5 yrs	$2,185	$CALL
9.0 GB	DT-1991AVW	Micropolis 1991AVWide	5 yrs	$2,285	$CALL
9.0 GB	DT-410800W	Seagate Elite 9 Wide	5 yrs	$CALL	$CALL

DISK ARRAYS/RAID

MEDIA 100 * RADIUS * DIGITAL VIDEO * TARGA 2000
ARRAYS INCLUDE - ATTO CARD, REMUS & 2 FAST/WIDE DRIVES

Capacity	Model No.	Mechanism	Seek	Warranty	EXTERNAL
4.0 GB	DT-32550W-2	Seagate - Fast/Wide Barracuda 2LP (2)	4.0 ms	5 yrs	$CALL
8.0 GB	DT-3243WAV	Micropolis - Fast/Wide 3243AV (2)	4.0 ms	5 yrs	$CALL
18.0 GB	DT-1991WAV	Micropolis - Fast/Wide 1991AV (2)	4.0 ms	5 yrs	$CALL
		CALL FOR MORE INFORMATION ON DIRECTTECH DISK ARRAYS!			
ATTO Silicon Express IV		Nubus Fast/Wide Accelerator			$CALL
ATTO Express PCI		Dual Channel - PCI -Fast/Wide			$CALL
ATTO Express PCI		Single Channel - PCI-Fast/Wide			$CALL

SYQUEST

INCLUDES ANUBIS FORMATTING SOFTWARE AND ONE CARTRIDGE

Capacity	Model No.	Internal	PHASER-I
88 MB	SQ5110C	$305	$365
200 MB	SQ5200	$420	$480
270 MB	SQ3270	$420	$470

CD ROM RECORDABLE

JVC Personal Archiver (2X)	$1,165
JVC Personal Archiver (4X)	$2,499

JVC External CD Recorders include cables, terminator, 2 Blank CD's and Software.

NEW JVC PRICING

TAPE

INCLUDES A FREE COPY OF RETROSPECT AND ONE TAPE

Capacity	Model No.	Format	PHASER-I
2 GB	HP-35470	4mm	$950
4-8 GB	Sony-5000	DDS-2	$999
4-8 GB	HP-1533A	DDS-2	$1,299
5-10 GB	Exabyte-8505	8mm	$2,150
15-30 GB	DLT-2000XT	DLT	$4,399

OPTICAL

INCLUDES ANUBIS FORMATTING SOFTWARE AND ONE CARTRIDGE

Capacity	Model No.	Seek	PHASER-I
230 mb	Fujitsu	30 ms	$675
1.3 GB	HP-C1716	23 ms	$2,099
1.3 GB	Maxoptix T-III	18 ms	$2,199

MEDIA

Type	Price
Syquest 44	$40
Syquest 88	$46
Syquest 105	$54
Syquest 200	$76
Syquest 270	$60
Optical 128 MB	$22
Optical 230 MB	$30
Optical 1.0 GB	$100
Optical 1.3 GB	$90

CALL FOR QUANTITY PRICING!

MICROPOLIS
Seagate
HEWLETT PACKARD
Quantum
SyQuest
JVC

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No charge for Visa, Mastercard or Amex

Government, Corporate, and University P.O.s Welcome!

- 30-day money-back guarantee on all drives.
- Refused orders subject to restocking fee.
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21 Inch DiamondTron Monitor from $1999*
- Rated Superior to Trinitron
- Largest Aperture Grille monitor available
- Up to 1600x1200 on Macs and PCs
- Full Digital Control from Keyboard

Radius SuperMatch 21 TXL	from $1699*
Radius PrecisionView 21	$CALL
Radius PressView 21sr	from $2899*
SuperMac PressView 21 "Editors Choice"	$1999*

Radius PrecisionColor Display 21 $1499*
- 1600x1200 to 1024x768
- Razor sharp dot pitch
- Best for color accuracy
- Selectable color temperatures

Compare at $2399

RasterOps SuperScan MC 21	$CALL
Radius Multiview 21	$CALL
Radius 21 inch Grayscale Display	$799

*With qualifying videocard, accelerator, or computer purchase

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Retail $1999 **SuperMac SuperMatch 20 PLUS** $999*
- Up to 1152x870 resolution
- Advanced Digital Controls
- Non-glare, Dynamic-Focus CRT

Best Screen Uniformity!

Radius PrecisionColor 20v	$1099*
Digital 20 inch Display Up to 1280x1024	$1399
RasterOps 20 Multimode	$1299
Radius PrecisionColor 19	$899*

Radius IntelliColor Display 20 from $1499* Retail $2399
- MacUser, MacWorld, MacWeek Editor's Choice
- 1600x1200 to 640x400

Apple Multiple Scan 20 Display	$CALL
Ikegami 20 inch Grayscale Display	$699
Radius 20 inch Grayscale Display	$699

*With qualifying videocard, accelerator, or computer purchase

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SuperMac/E-Machines T16IIMR Compare at $1299 $599*
- High Grade Studio Trinitron Series
- .25mm multi-resolution • Editors Choice
- 1024x768 to 640x480 resolutions

SuperMatch 17T	$799*
PrecisionColor Display 17	from $899
PrecisionView 17	$CALL
Radius PressView 17sr MW ★★★★★	$CALL
SuperMac SuperMatch 17	from $499*

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PORTRAIT DISPLAYS

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We have cards for SE/30, LC, IIsi, Nubus, and Quadras

* With purchase of video card.

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Grayscale Pivot	$399
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Apple Portrait Display	$399
Portrait Display Labs 1700	$CALL
E-machines ColorPage 15 with NUBUS card	$499

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Radius Thunder 24/GT (accepts PhotoEngine)	$CALL

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Thunder 24 (DSP available)	$CALL
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SuperMac Ultura LX*	from $899
RasterOps Horizon 24*	from $999
RasterOps 24XLTV	$1999
RasterOps Prism GT	$CALL
Radius PrecisionColor 8XJ	$499

*DSP Available

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SuperMac Spectrum 24 Series V	$599
Radius PrecisionColor Pro 24XK	$CALL
SuperMac Futura MX	$499
RasterOps PaintBoard Lightning	$CALL
SuperMac Spectrum 8	$199
PowerView/SuperView for Powerbooks	$199/$299

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Radius 24 bit video cards	from $199
Radius PrecisionColor Pro 24XP	$CALL
SuperMac Futura SX	$299
RasterOps 24 MX	$399

PHOTOSHOP ACCELERATION

"If you frequently need to retouch large image files in Adobe Photoshop using such filters as Gausian Blur, Shapen, and Emboss, then you need either to have the patience of Mother Teresa or a digital signal processor (DSP) board." –Macworld

Radius PhotoEngine from $399
- Four AT&T 3210 66MHz DSPs
- Accelerates Photoshop Filters
- Up to 15x acceleration on all Macs
- MacUser Editor's Choice
- Available in Daughtercard or NUBUS versions

Standard video cards do not provide acceleration for many critical Photoshop functions, because they do not have on-board Digital Signal Processors (DSPs). When installed in your system, DSPs are used by Photoshop to process time consuming commands more than 10-times faster than built-in video.

Greatest Improvement Areas:
- Filters such as those in the Sharpen and Blur submenus
- Mode conversions such as RGB to CMYK color separations
- Image transformations such as rotations, effects, and resizes.

Radius PhotoBooster (NUBUS or Rocket/PDS)	$199
SuperMac ThunderStorm DSP Boards	$299
Radius Color Engine for Thunder 30 Cards	$CALL
Radius PhotoEngine Nubus	$CALL
Adobe Photoshop 2.5 Deluxe CD Edition	$CALL
RasterOps Paintboard DSP Upgrades	$CALL
Radius GX (CMYK acceleration) Upgrades	from $349

Stop wasting valuable time: Imagine using filters that normally take twenty minutes to process finishing in only two to four minutes! How much additional time would you save in just one week? You can't afford to be without DSPs.

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We have purchased excess printer inventories DIRECT from the manufacturer, so you can save over 50-75% on most of our current printers. DO NOT WAIT, as quantities are extremely limited and supplies will NOT last!!

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Color Laser Printers are the best choice for printing text, graphics and color. They use a similar printing process to monochrome printers and output on standard laser paper, which means your prints will not fade or crease. The cost to add color to your documents is now only a few cents more per page. For a LIMITED TIME ONLY, you can purchase a Color Laser Printer for under $2,000--call now to order!!

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- Only Color Laser Choice for envelopes

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Apple Color Laserwriter 12/600PS	$6279
Xerox 4900 series Color Laser	from $5589

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11x17 Tabloid Color Printers	from $2999
SuperMac Proof Positive dye sub	$SPECIAL
Fargo Pictura 310 Color Printer	$CALL

- Up to 12"x18" output
- Dual-function dye sub and wax thermal
- Editors Choice

QMS ColorScript 210/230	$CALL

- Up to 11x17" full-bleed output

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- 11 x 17 full bleed
- PostScript Levels 1&2
- 8ppm heavy-duty Canon engine
- Powerful RISC processor

Hewlett-Packard 4mv	$CALL
GCC SelectPress 1200x1200dpi	$4999
22ppm QMS PS2210/2220	$1499/$1699

HOME/OFFICE

360 DPI Color Printer $199
Star SJ-144MC
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- Heat Fusion process avoids Ink-jet smear
- 2-year Manufacturer's Warranty
- ADD box of 3 Color Cartridges ($57 value) only $29

* With purchase of any other item in ad

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QMS PS 825/825mr 600dpi	$799/$1099
QMS 1060 10ppm, 600dpi	$CALL
QMS PS 1500 15ppm	$1299
QMS PS 1700 17ppm, duplex optional	$1999
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Seikosha SP-2400AP dot matrix	$179
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GCC WriteMove/WriteMove II	$149/$249

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NUBUS POWER MAC SPECIALS*

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Radius 81/110	$CALL

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Quadra 650 4/250/CD	$CALL

* with purchase of any qualifying monitor or video card

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- FREE ClarisWorks!

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Mac IIcx 15" Color System $275 CPU only
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- E-machines ColorPage 15" Display
- NUBUS accelerated video
- Extended 105-key Keyboard $849 Complete
- FREE ClarisWorks!

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PowerBook 160/180	from $999
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PowerBook Duo 270c/280c	$CALL
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Apple Duo Docks	from $499*
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* with purchase of a PowerBook

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-includes SCSI II Booster and RocketShare

Rocketshare multiprocessing software	$299
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Video Vision Studio 2.5.1 $1999*
- 24bit Full-Screen, Full-Motion Video
- Includes Adobe Premiere and VideoFusion
- Breakout bar supports dual input

* with purchase of Studio Array

Video Vision Studio Array $1999
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- Includes FWB Jackhammer SCSI accelerator

TRUEVISION Targa 2000 PCI/NUBUS	$CALL
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RasterOps 24STV	$999
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RasterOps MoviePak II JPEG Daughtercard Upgrade	$CALL
Spigot II Tape Now Bundled with Adobe Premiere	$499
Apple PowerMac AV Card	$CALL
VideoSpigot Cards Nubus/LC/IIsi	from $99*
Radius Spigot Power AV	$799

*With purchase of Adobe Premiere

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Pinnacle Micro APEX 4.6GB Optical Drive	$CALL
Pinnacle Micro CD-Recorders	from $799
NEC 4x External CD-ROM Multimedia Kit	$249
NEC 3x External CD-ROM Multimedia Kit	$199
Apple or NEC 2x External CD-ROM Multimedia Kit	$179
Fujitsu 1.2GB HD Wide (Ext) w/system	$349
Seagate 2.4GB HD fast & Wide Barracuda (Ext)	$899
Iomega ZIP, JAZ drives	from $199
Apple 250mb HD internal/external	$125/$200
Apple 350mb HD internal/external	$175/$250
Dayna 360K/1.2mb-740K/1.44mb	$499
Exabyte 8mm 5gb tape backup	$999
NEC CDR 72/73/74 CD drive	$99/$199/$299
Apple FDHD auto insert floppy	$199
FWB Jackhammer SCSI accelerator PCI	$399
FWB Jackhammer SCSI accelerator NUBUS	$499
Daystar SCSI PowerCard accelerator NUBUS	$299

COOL STUFF

NETWORKING

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Apple Token Ring NUBUS cards	from $299
DCA Mac Irma 3270	$499
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EtherNet boards for SE, SE/30	$99
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E-machines Colorlink SX/T 24-bit to 1024x768, 10BT ethernet	$499

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RasterOps 24XLi (3MB, expandable to 16MB)	$599
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RasterOps 708+ 8bit for 20" monitors	$299
Daystar NUBUS RAM Expansion Card	$199
E-machines T19 Card for SE30/IIsi	$299
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Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Radius FPD Card	Mac Plus	Mono	–	–	–
Radius Pivot Card	SE/30	256	–	–	–
Xceed Color 30hr	SE/30	256	256	256	256
Lapis Color 16	SE/30	Thousands	Thousands	256	256
Lapis Color 24	SE/30	Millions	Millions	256	256
Radius Direct Color/gx	IIsi	Millions	–	–	–
SuperMac Spectrum 8	IIsi	256	256	256	256
SuperMac Spectrum 8.24	IIsi	Millions	256	256	256

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Radius FPD Card	Mac SE	Mono	–	–	–
SuperMac Superview	Mac SE	–	–	Mono	–
Radius TPD Interface	Mac SE	–	–	–	Mono
RasterOps 8/LC	LC/PDS	–	–	256	–
SuperMac Spectrum 8	LC/PDS	256	256	256	256
Lapis Color 16 for LC	LC/PDS	Thousands	Thousands	256	256
Micro Conversions 1724	LC/PDS	Millions	Millions	256	256
Lapis Color 24 for LC	LC/PDS	Millions	Millions	256	256

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Double Color SX	Nubus	256	256	16	–
RasterOps 708+	Nubus	256	–	256	–
RasterOps 24L	Nubus	Millions	–	–	–
RasterOps 8/LC	Nubus	–	–	256	–
SuperMac Spectrum 8	Nubus	256	256	256	–
Double Color LX	Nubus	256	256	256	256
Radius Direct Color 24	Nubus	–	–	–	Millions
E-machines Futura MX	Nubus	Millions	Millions	Millions	–

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2200MB Capella		C109 1213/C109 1212	$669/$729
2150MB Atlas		C109 1112/C109 1111	$799/$859
4300MB Atlas	BEST BUY	C109 1122/C109 1121	$1139/$1199

Seagate

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2.5GB Barracuda 2 LP 32550N		C109 2203/C109 2109	$769/$829
4.3GB Barracuda 4 15150N		C109 2207/C109 2106	$1259/$1319
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9.1GB Elite 9 ST410800W	C109 2220/C109 2222	$2269/$2389

Quantum

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4.3GB Grand Prix XP34301SW	C109 2216/C109 2218	$1029/$1129

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A029 1001	Adaptec Remus 1.3 (Raid Levels 1, 4, 5) (Software)	$439

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N024 1070	MultiSpin 4Xc 7 Disc Changer	350ms	600k/sec.	$339
N024 1011	MultiSpin 3Xp plus Portable CD-ROM	240ms	500k/sec.	$379

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		Access time	Trans Rate	
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*Cartridge not included

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S198 1011	88MB	$44ea	$43.50ea	$43ea
S198 1012	200MB	$69ea	$68ea	$67ea
S198 1013	105MB	$35ea	$34.50ea	$34ea
S198 1014	270MB	$57ea	$56ea	$55ea
S198 2010	EZ135MB	$23ea	$22.50ea	$22ea

iomega

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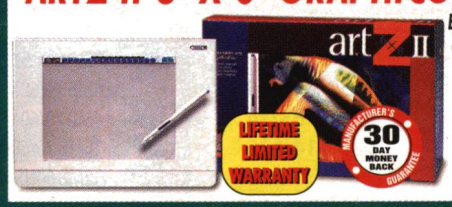

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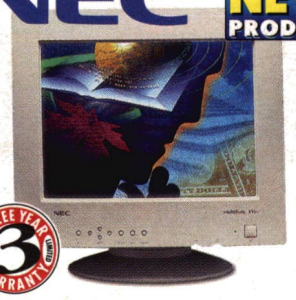

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PowerMac Memory Selection Guide

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72MB	(2) 32MB 60NS

PowerMac 7100, 8100

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72MB	(2) 32MB 60NS
136MB	(4) 32MB 60NS
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PowerMac 9500, 8500, 7500

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To upgrade your RAM to:	You need to order:
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512K Cache Dimm PMPCI512	299

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Global Class 288 V.34 PCMCIA	355

Motorola

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Turbo 601 100 MHZ w/adapter	1175
PowerGard 601 100MHZ	959

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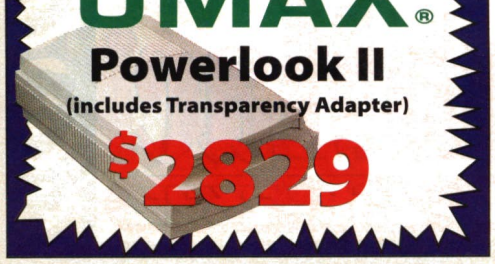

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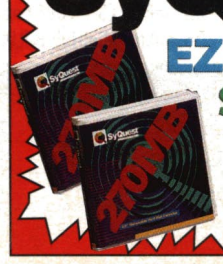

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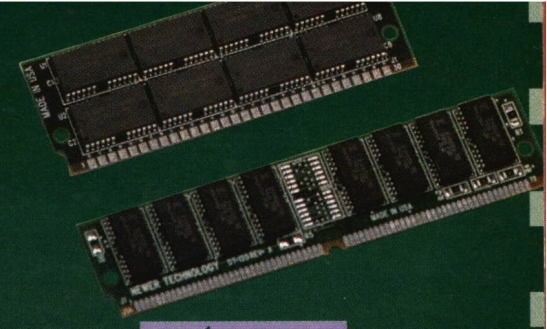

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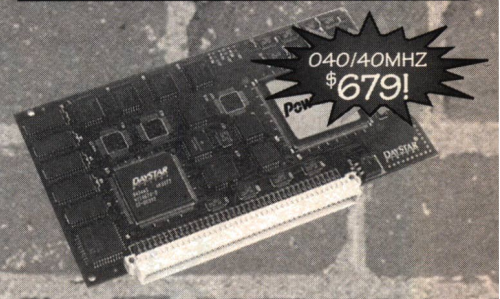

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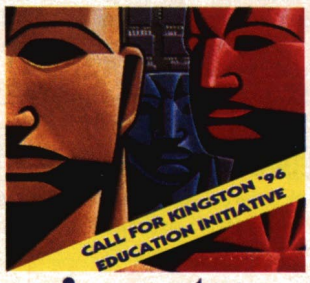

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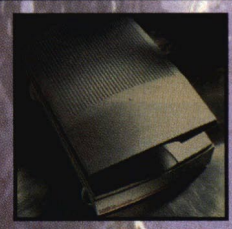

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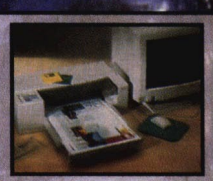

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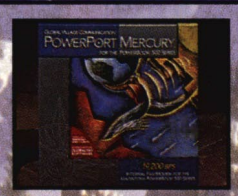

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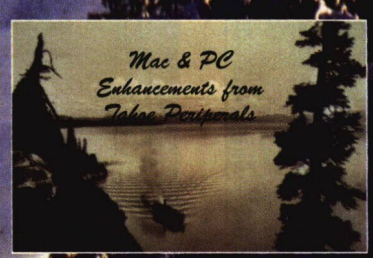

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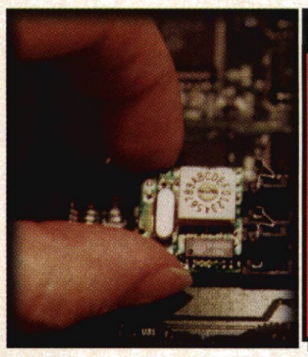

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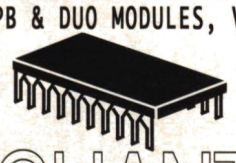

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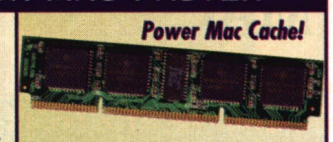

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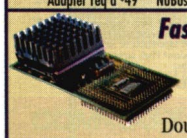

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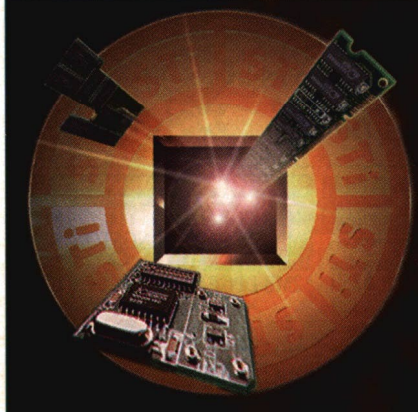

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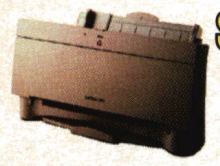

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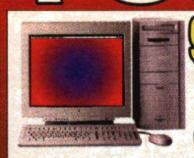

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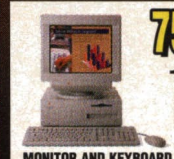

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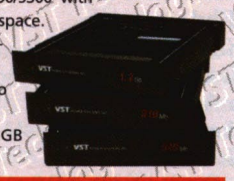

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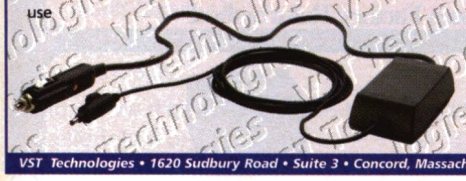

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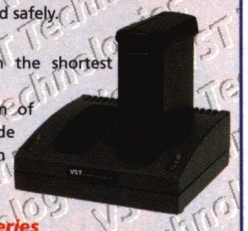

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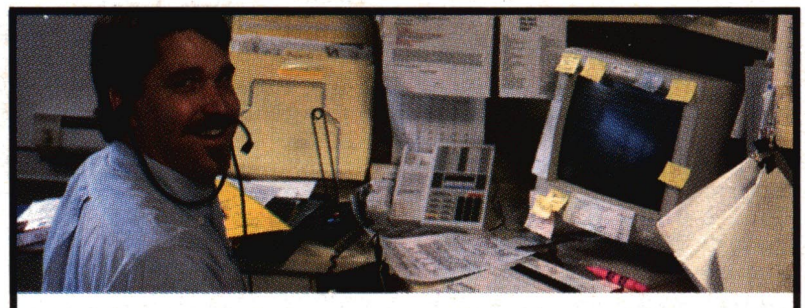

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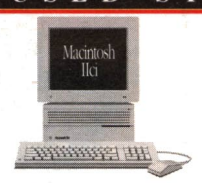

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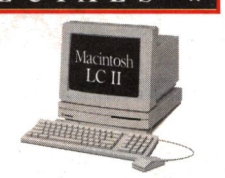

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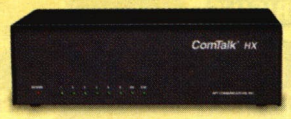

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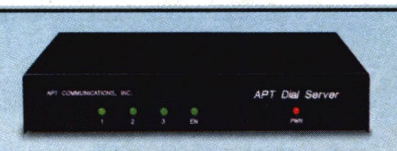

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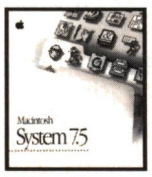

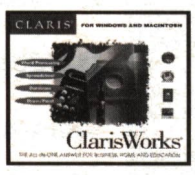

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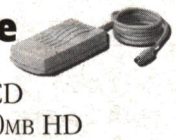

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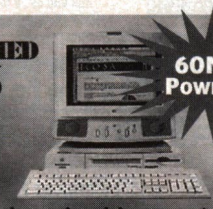

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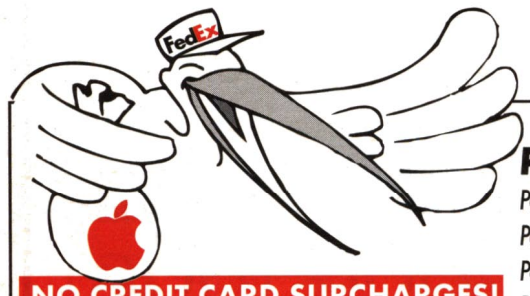

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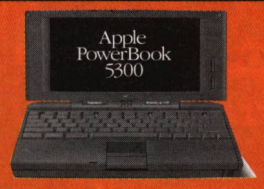

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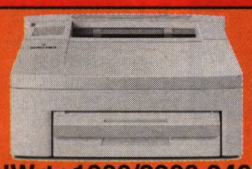

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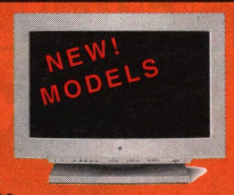

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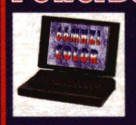

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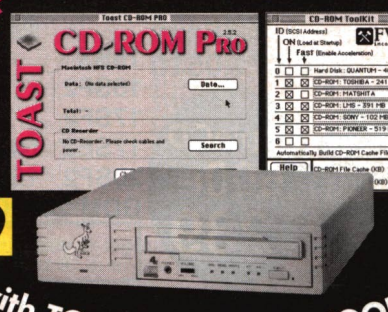
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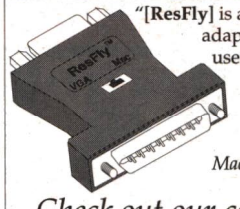

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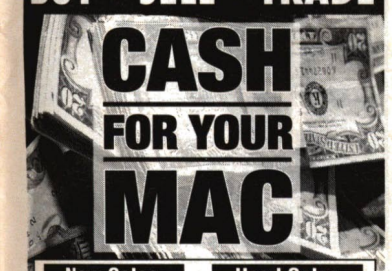

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Syquest Ez135 220v	$236
Iomega Zip Drives	$189
Syquest 44m Media	$39
Syquest 88m Media	$44
Syquest 105m Media	$49
Syquest 200m Media	$62
Syquest 270m Media	$52
Fujitsu 230MO House External	$469
Fujitsu Dynamo MO	$485
Olympus 230MO House External	$448
Olympus Deltis 230MO	$485
Optical Media 230M	$18

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Quantum Fb540s 12ms	$159
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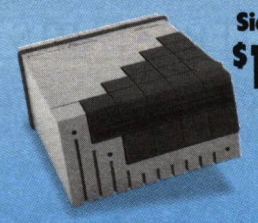

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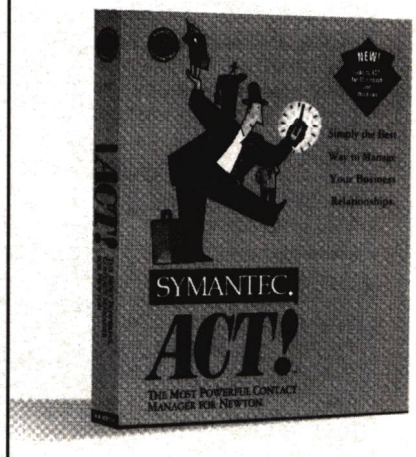

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VRML

From Page 1

dards board. However, the list of supporters does not include Apple and Microsoft, which have issued their own proposals.

Cold shoulder

Microsoft's ActiveVRML proposal received a chilly reception from the VRML community last December. Developers said it does not follow community principles for making VRML an open standard.

"Microsoft came down from its mountain and tried to dictate the way VRML 2.0 would go," said Adrian Scott, CEO of Aereal Inc., a San Francisco VRML tools developer.

Mike McCue, president of Paper Software Inc. of Woodstock, N.Y., said ActiveVRML is a great language for time-based systems, such as Macromedia Director, but "imposes lots of constraints" for modeling.

David Britton, group marketing manager for Windows 95 multimedia at Redmond, Wash.-based Microsoft, denied these allegations. "We are completely compatible with VRML 1.0 worlds out there. I think we're working in an open way with the industry."

Format over function?

Apple's plan, submitted last month, proposed incorporating its 3DMF (3-D metafile format) into VRML 2.0. Although initially praised, it has since lost supporters in the wake of Netscape's and SGI's proposal.

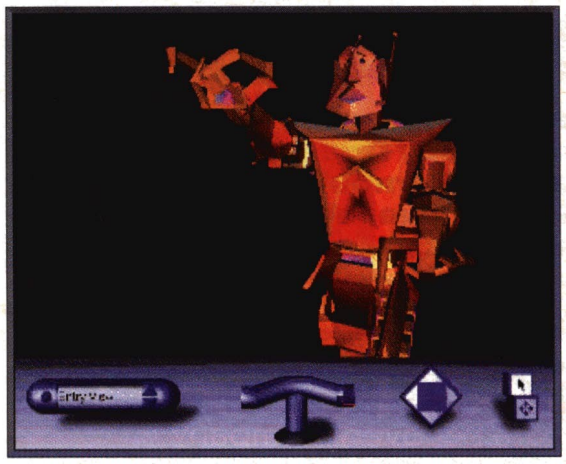
"Apple continues to suffer from the 'not-invented-here' syndrome," said John McCrea, manager of SGI's WebForce development team. "There's not a lot of weight to their proposal."

Mike Kelley, manager of Apple's dynamic media group, disagreed. "Our proposal is concentrated on something we felt wasn't addressed in any of the other proposals out there, including Moving Worlds," he said. 3DMF offers a more robust file format, is compatible with Moving Worlds and could be combined with that proposal, he said.

Alex Edelstein, senior product manager for Netscape Navigator, said Apple's file format is "smaller and more compressed than the Moving Worlds format." However, he added, 3DMF "doesn't address behaviors like birds flying or balls bouncing; multi-user operations; or avatars."

Process vs. progress

Despite Apple's and Microsoft's efforts, many said they feel that Moving Worlds' dominance may be inevitable. But for Apple and Microsoft to give in at this point would confirm fears that the Moving Worlds specification has sidestepped VAG's standardization process, observers said. VAG is expected to issue a draft of VRML 2.0 in late March, with the final version due this summer.



Netscape and Silicon Graphics are trying to point the way to the future of 3-D on the Internet with their Moving Worlds specification, shown in this proposed VRML browser from SGI.

Netscape and SGI are already distributing the Moving Worlds specification and will soon release browsers supporting it. Thus, Moving Worlds could become a de facto standard well before VAG can act. In a similar move, Netscape filled the vacuum produced by the slow HTML 3.0 standard-building process by creating its own HTML tags for Navigator.

Netscape said it will play VAG's game, but feels pressure to keep the market moving forward. "We're going to try the best we can to use the VAG process, but we don't want to hold up delivery to our customers," Edelstein said.

Grant Munsey, CEO of Cognicon Inc. of San Jose, Calif., said, "If [Moving Worlds] is included in Netscape's browser, that alone will pretty much give it 'standard' status due to sheer volume."

Apple's Kelley agreed. "Netscape for all intents and purposes owns VRML now," he said.

All together now

Nevertheless, some observers contend that Microsoft and Apple may still find a place at the VRML dinner party, even if it's only serving a side dish.

"Both Microsoft's and Apple's proposals seem to have some decent stuff in them," said Mike Hilgenberg, vice president of Integrated Data Systems Inc. of Savannah, Ga. "I like the time-based model in ActiveVRML. It keys everything by timing."

Netscape's Edelstein agreed that there may be some room for compromise. "[The Microsoft proposal] will get plumbed for its insight on time.

"I wouldn't write Apple off," he added. "We may end up with some synthetic mechanism with Moving Worlds, Apple's [file] format and Microsoft's time thing."

Aereal's Scott said: "I think the standardization process will still go through all the way. I think everyone agrees there is still a lot to be done."

Ken Gaebler, vice president of sales and marketing at VREAM Inc., a VR developer in Chicago, noted that creation of standards is always a political process. "I think it's an effort to influence rather than go around the standards process," he said. "[Netscape] won this round." □

Joanna Pearlstein contributed to this report.

OpenDoc

From Page 1

its plans for ClarisWorks.

Meanwhile, Apple has plenty of its own OpenDoc plans. The company last week released a beta version of Cyberdog, available at http://cyberdog.apple.com. Apple said the beta of its OpenDoc-based suite of Internet tools contains the same feature set as the most recent alpha version but is faster and has bug fixes.

Expected to ship later this spring, Cyberdog will include viewers — which let users see and print the contents of a document — for most picture and sound types and several of Apple's OS extensions, including QuickTime and QuickTime VR.

The company said it plans to distribute Cyberdog as a retail package as well as bundle it with CPUs and the OS. Although the beta of Cyberdog runs only on Power Macs, Apple said it is investigating whether it should make the tools suite available for 680x0 machines as well.

Apple is at work on Version 1.1 of OpenDoc. The update, due by late March, will include bug fixes and performance enhancements. Gina Centoni, OpenDoc product line manager, said the component architecture will come with Apple CPUs and the Mac OS by late spring. Also by spring, OpenDoc will come bundled with parts for graphics, text and drawing.

Further down the road, according to Centoni, Apple plans to fold OpenDoc into Copland. "OpenDoc is a dependency for Copland," she said. "What that means is Copland won't run without OpenDoc. The Copland engineers have tried to do as much integration with OpenDoc as possible." For example, Apple's mail strategy will be deployed in Copland through OpenDoc (see 01.15.96, Page 16).

However, Centoni said, users won't have to wait for Copland to see OpenDoc integrated with the OS. She said Apple intends to provide OpenDoc-based layers that will sit on top of the OS. These layers will have the appearance of customized operating systems and will allow Apple to tailor Mac models for specific markets — for example, one OS designed for 6-year-olds and another created for scientists.

Centoni also said Apple has taken over the Claris Virtual Suite, an OpenDoc extension that will allow multiple components to share an interface element such as a floating tool bar, palette or menu (see 11.06.95, Page 1). She said Apple is discussing the best way to deploy it.

In related news, IBM Corp. announced that the beta version of OpenDoc for AIX is now available. The company said it plans to have a golden master of OpenDoc for AIX ready in the second quarter. □

Scitex

From Page 1

media presentations. Users will select media objects; assign commands using a menu; and control actions using an events palette, a time line or a combination of both.

Scitex said text elements in ClickWorks will be fully editable at all times, even within its runtime player. Text can be anti-aliased, colored or transparent; styled text can be imported from Microsoft Word or Corel Inc.'s WordPerfect.

ClickWorks will be able to read a variety of image file types, including TIFF; PICT; Desktop Color Separation; GIF; JPEG; and Scitex's CT, PSImage and LW formats. In addition, it will be able to import AIFF (Audio Interchange File Format) and snd audio files as well as QuickTime movies. Users will be able to play movies in oval or polygonal boxes, create links to Macromedia Director presentations, and automatically convert CMYK colors to RGB.

A developers tool kit will ship with ClickWorks, and its open architecture will let users write add-ons in C++. Several third-party extensions in the works will add features that include spell checking and text retrieval from databases. Scitex said ClickWorks extensions will eventually be able to connect to FTP sites and enable Web-based publishing.

The authoring portion of ClickWorks will require a Power Mac with a minimum of 25 Mbytes of RAM. The cross-platform runtime player will run on Power Macs and 680x0-based models as well as Intel-standard PCs running Windows 95 and Windows NT. Mac versions of the runtime player will require System 7 with 8 Mbytes of RAM.

Multimedia applications created in ClickWorks will be able to incorporate and respond to variables entered by users. For example, an interactive travel brochure might request a user's travel budget, enabling it to tailor displays to the customer's requirements and dial up a central server to place that user's order.

"Scitex has a very interesting approach," said beta tester Fred Connors Jr., general manager at The Troupe Modern Media Design and Production of Windham, N.H. "It's a combination of things they do very well — database interaction and good-quality color handling."

Connors said he has been testing ClickWorks by duplicating existing projects done in Macromedia Director and Interactive Media Corp.'s Special Delivery. He said Scitex's application will be tough competition for them.

"Scitex is a powerful player in the publishing world, and at under $1,000 for a Scitex application, that's bargain-basement stuff," he said. "Not only will it be competition, it will force apps like Director to move forward with their user interfaces. It's going to be better for users all the way around."

One of the giants of the prepress world, Scitex has begun to dip its toe into multimedia waters. With its recent acquisition of ImMIX and Abekas Video Systems, the company has staked a claim to high-end video editing, but ClickWorks represents its first multimedia-authoring tool.

"It's reasonable for Scitex," said Gary Schultz, principal analyst of the Multimedia Research Group of Sunnyvale, Calif. "Scitex seems to be a company that's done its homework in terms of feature and function mix, and it does get them into multimedia more than they have been. I see them trying to pick up where Radius dropped the ball."

Final pricing has not been set.

Scitex America Corp. of Bedford, Mass., is at (617) 275-5150 or (800) 675-5666; fax (617) 275-5649; smpsupport.sta@scitex.com. □

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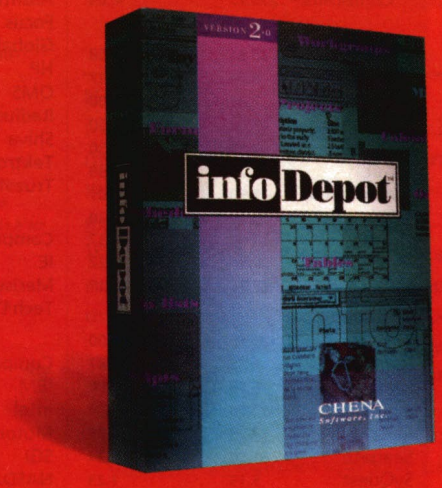

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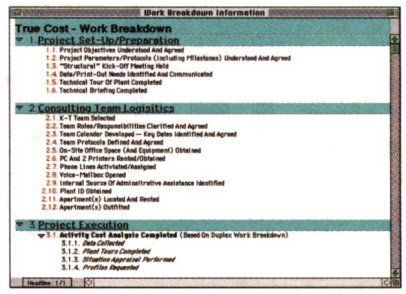

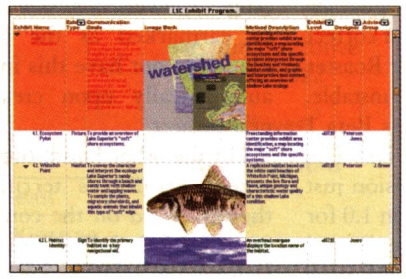

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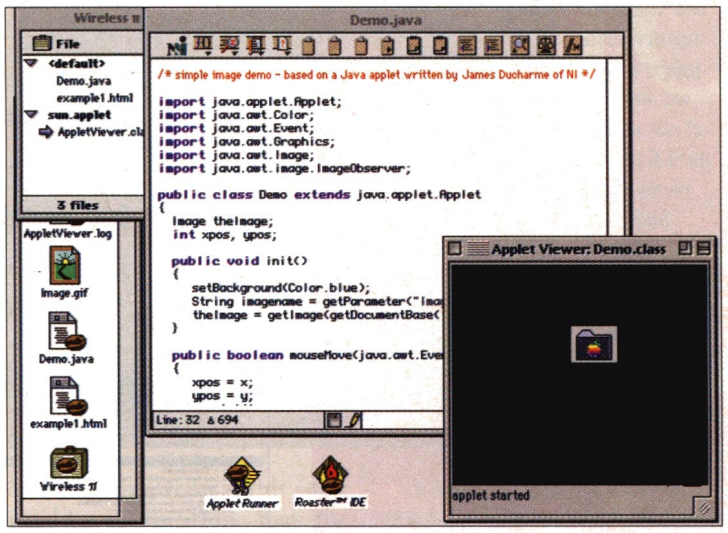
Roaster

From Page 1

entitles you to all subsequent developer versions and two commercial releases. It's a great strategy, particularly for a development package that's destined (we hope) to change dramatically as it goes into full production.

Roaster's integrated development environment is similar to programs such as Symantec Corp.'s Think C, in which a collection of source and HTML files are stored within a project space. The DR1 release includes a project window; editor; debugger; and two Java compilers, Sun's javac compiler and a new native Power Mac compiler being developed by Natural Intelligence. In our early tests, the javac compiler proved somewhat slower but is guaranteed to produce clean and correct results, whereas the faster Roaster compiler was a bit more unstable.

The program supports Beta 1 of Sun's Java Developer Kit. The company's JavaSoft division just released a beta of Version 1.0 for the Mac (see story, Page 4), and Natural Intelligence said it is working on compatibility.



Natural Intelligence's Roaster offers a complete environment for creating Java applets, including a script editor, debugger and compiler.

First-release blues

Working with Roaster DR1 was not as smooth as we had hoped. Instead of automating tasks so developers can focus on working with the Java language, the program forces you to constantly think about the development tools too. One example: When creating a project, it must always include AppletViewer.class, which must be earmarked as the start-up file. Why not have this included automatically upon creating a new project?

On the other hand, the development editor is terrific. Although based on the company's own QuickCode Pro, it's strongly reminiscent of Bare Bones Software Inc.'s BBEdit. As you type in your Java script, different types of information are set off in different colors: blue for Java keywords, red for comments, green for string constants and so on. It's very effective and quite helpful.

The editor is sophisticated, but it's also quite complex: There are 16 tiny icons along the Edit window by default. (With a nod toward the daily grind of programming, one of the buttons you can add to the tool bar lets you easily control audio CDs). When we entered some HTML code to create a Web page that called our Java applet, we were disappointed that the editor didn't delimit HTML formatting tags with colors. Natural Intelligence said that it's already working on this and will include this feature in the final release.

Errors and traps

The executable pseudolanguage for a Java applet is stored within a file called YourClass.class, so while glancing at a folder shows if you've built your applet, there's no visual clue within Roaster. We found the quality of error messages in the Roaster compiler lacking as well. A missing curly bracket was flagged as such in Sun's javac compiler, while Roaster simply indicated a "syntax error" without any suggestion of what it might have found wrong.

When actually trying to run Java applets, you need to switch from Roaster to a separate program called Applet Runner. Unfortunately, the DR1 release of Applet Runner proved to be a very buggy program and the cause of most of the problems we encountered, including many crashes. When it did work, however, it was great, and Natural Intelligence said that it has quashed the crashing bugs.

The Sun Java Development Kit (included with Roaster) offers a variety of interesting demo applets, including our favorite — NervousText. Again, though, they worked sporadically within Applet Runner.

Conclusions

As programming and development environments go, Roaster looks like it won't break any new ground in terms of interface or functionality. It sports an awkward interface that needs improving, particularly with its HTML editing capabilities. But it certainly seems to be at least a far more complete environment than Sun's Java development kit.

Natural Intelligence is releasing these early versions of Roaster as developers releases, which means that bugs and difficulties are to be expected and tolerated if you want to get started right away with Java programming. Even by this standard we were left feeling a little burned by DR1. However, it's encouraging that Natural Intelligence has released a major bug fix just a month after the initial release. With the competition heating up, the company will have to maintain this pace to turn Roaster into the well-rounded development environment that Mac developers want.

Natural Intelligence Inc. of Cambridge, Mass., can be reached at (617) 876-4876; fax (617) 492-7425; info@natural.com; http://www.natural.com. □

Minolta

From Page 1

copier to print to 12-by-18-inch sheets. Minolta said the new copier will replace its $43,995 CF80 Plus.

Users seeking to print from their desktops will be able to run the new device with PostScript Level 2 Fiery XJ170 or XJ300 color RIP servers, priced at $16,995 and $33,000, respectively, from Electronics for Imaging Inc. of San Mateo, Calif. Minolta said it is also considering bundling agreements with other RIP developers.

The new copier will offer resolutions of up to 400 dpi and 200 lines per inch. It will be able to output letter-size black-and-white documents at a speed of 23 pages per minute and letter-size CMYK documents at 6 ppm. It will print tabloid-size color sheets at a rate of 3 ppm.

Minolta said the new device will introduce proprietary screen technology that will improve image quality and offer continuous-tone output. The firmware fine-tunes color gradations and granularity, raises perceived resolutions, and reduces moiré patterns, the company said.

According to Minolta, the CF900 will be aimed at graphic arts applications and service-bureau installations. It will compete with Canon U.S.A. Inc.'s $33,000 CLC 700, which is also compatible with a variety of third-party RIPs, including EFI's Fiery models.

"The Canon 700 is a very good product, but Minolta has gone one step better," said Frank Cannata, editor and publisher of the Glastonbury, Conn.-based Cannata Report. "In copy quality alone, I don't think there's any comparison — [the CF900] has the capacity to be a real pre-press color solution," he said.

The upcoming device will feature a 25.2-by-29.7-inch footprint that is 35 percent smaller than its predecessor, according to the company.

When operating as a copier, the CF900 will use a touchscreen display with sharpness, brightness and color-balance controls. It will also let users alter image sizes from 25 percent to 600 percent.

The CF900 will include two 500-sheet paper drawers and a 750-sheet universal drawer. According to Minolta, the copier will accept up to 90-pound index stock paper and will include overhead projector transparency interleaving, as well as a cover insertion mode.

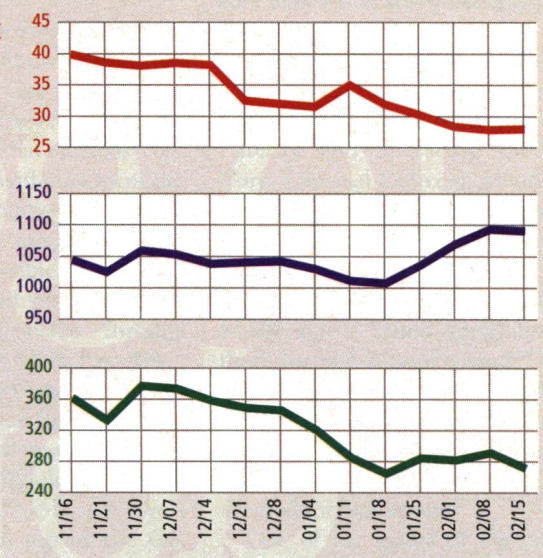
Analysts said the CF900's price and performance will make it very competitive with products from market leaders Canon, Xerox Corp. and Ricoh Corp.

"[Minolta's] competitors are very strong, but I think they have a crack at it," said Charles LeCompte, editor of the Newton, Mass.-based Hard Copy Observer. "Assuming they can deliver the product they're promising, that's a good start."

Options for the CF900 will include a $1,995 automatic duplexing unit. Pricing for a 10-bin sorter, an automatic document feeder and a film projector has not yet been set.

Minolta Corp. of Ramsey, N.J., is at (201) 825-4000 or (800) 964-6658; fax (201) 818-3240. □

StockWatch



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Caere	8.63	-4.17
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Graphsoft	5.63	12.50
Insignia	5.88	9.30
Intuit	55.25	-12.99
Macromedia	33.50	-10.07
Microsoft	98.50	-0.38
Novell	13.00	-9.57
Oracle	52.88	5.22
Symantec	12.75	-8.11
STORAGE		
Conner	25.75	0.00
Iomega	14.25	-0.87
Maxtor	6.63	0.00
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HP	86.38	-5.08
QMS	5.25	-4.55
Radius	1.56	0.00
Shiva	71.88	-5.12
Tektronix	44.75	-1.38
Truevision	5.50	-1.12
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IE	6.13	0.00
Merisel	3.69	-1.67
Tech Data	13.31	-9.75
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IBM	117.63	3.63
Intel	57.50	-0.65
Motorola	54.88	-3.52
SGI	27.00	-7.30
NASDAQ	1090.54	-0.24

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Have you explored ZD Net's Web site lately? In addition to MacWEEK and its sister publications, you'll find exclusive features like the Personalities section (featuring MacWEEK's Andy Gore), a customizable Personal View and a powerful search engine. Keep an eye on ZD Net's main page at http://www.zdnet.com/ for details.

Keeping in touch with MacInTouch
Visitors to Ric Ford's MacInTouch home page at http://www.macintouch.com/~ricford/ may have been unable to access the site last week. Fear not, for the site is still there — these were just temporary technical difficulties.

Where to find us on-line
In ZD Net/Mac on CompuServe, you'll find the MacWEEK Forum at go zmc:macweek and the MacWEEK News menu at go zmc:mwnews. On the Web, visit our home page at http://www.zdnet.com/~macweek/.

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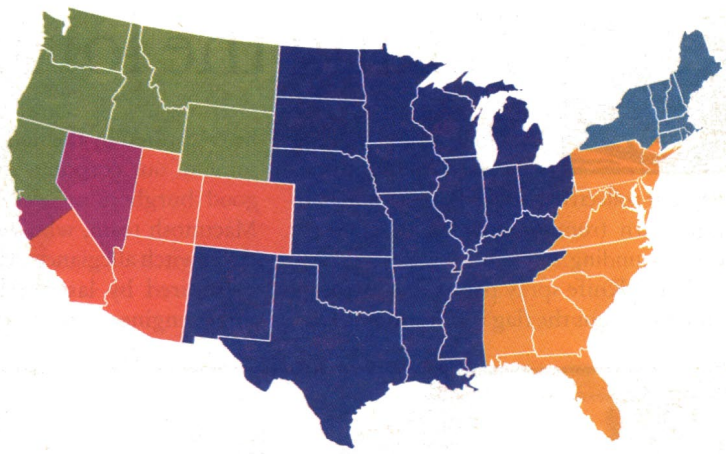

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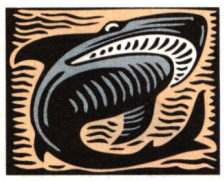

Taking the loyalty oath

Another week, another cherished American holiday; our collective Zeitgeist has made a sharp right turn from lovemaking to jingoistic chest-pounding.

As the Knife spray paints the Astroturf and dry-cleans the flag for Presidents Day, he is inspired by the nationalistic fervor of some of our corporate citizens. Take the good burghers on the WordPerfect for Macintosh team, who would rather fight than switch allegiance to new owner Corel.

Inspired by last week's defections of three engineers to start-up WorldSoft, another group of freedom fighters — including rabid Mac partisan Roger Bell — have taken to the hills to start their own company.

This revolutionary cell should put in its first appearance in time for San Jose's WWDC rally in May.

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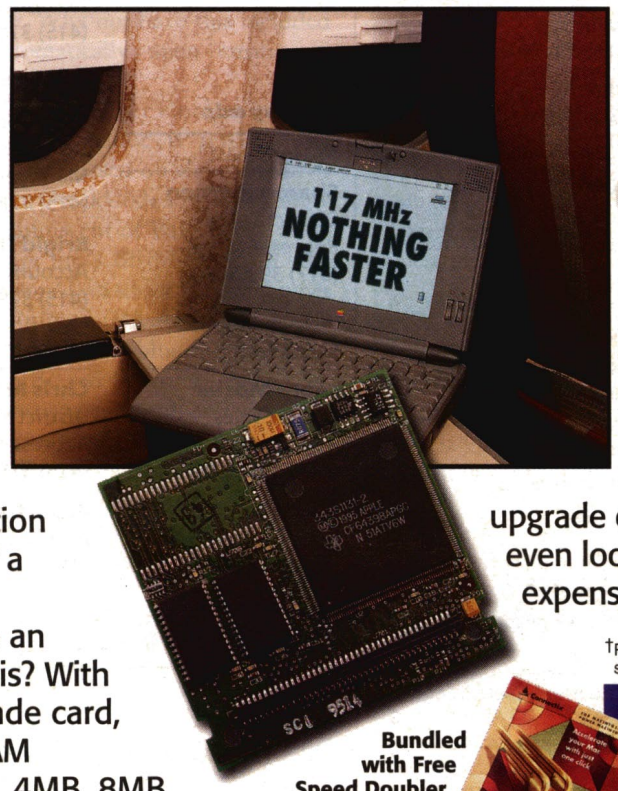

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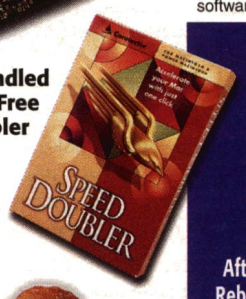

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Ain't nothin' but a hound dog

Of course, blind loyalty can be counterproductive, even when it comes to the faithful family pooch. Never one to put sentiment before profit, Adobe is taking a long, hard look at Fetch, the flea-bitten image database it inherited from Aldus. The Knife's animal lovers admit that the product is a dog. Considering that it hasn't been revved in three years, the Knife suspects that putting Fetch down will barely raise a whimper.

Down, Cujo!

Adobe has discovered that one of the plug-ins on the Illustrator 6.0 CD needs a bit of paper training. The GE Stamp module will change the creator types of every Photoshop file on a disk, making it impossible to open the documents from the desktop (though not from within Photoshop). Until Adobe sends the CD back to obedience school, affected users will have to rebuild the desktop — or do some heavy alias voodoo — to bring unruly files back into line.

Suffer the little apps

But back to the loyalty issue: The legion of cultists devoted to promoting the good works of graphics guru Kai Krause will be devastated to learn that MetaTools' SuperBryce synod has suffered a significant setback. The Knife's doubting Thomases say that the prerelease version of the company's much-heralded 3-D effects package has been sent back to the drawing board. Expect the beta version to make a second coming in perhaps six months.

No ROM at the inn

Moving from the sacred to the profane, the Knife is grieved to report that one of his counterparts in the Fourth Estate has again been smoking the wrong pipe. While propriety prevents him from identifying the publication, the Knife must report that there is a world of misinformation in a recent story that Apple will include OpenDoc in the ROMs of future Mac models. Considering that ROMs will cease to be a factor with the release of Copland, this latest hallucination has inspired some much-needed mirth among Apple's weary corps of engineers. "That was hysterical," one foot soldier giggled. "That is not happening at Apple." The Knife hopes the author of the offending piece is gratified by his ability to amuse.

Hello, Larry

Alliterative current events question of the week: Name two misguided megalomaniacs putting Machiavellian moves on a moribund, moneyed American monolith. No, not Dole and Buchanan; we're talking about Larry Ellison's latest claim that he and Steve Jobs had toyed with the notion of a joint bid for Apple.

While the notion of the NeXT OS running Oracle databases on Newton PDAs does hold a certain perverse fascination, the Knife is touched by the spectacle of two bajillionaires making up science fiction stories to impress their peers. □

Got a tale to tell? A MacWEEK mug could be yours! You make the call: (415) 243-3544; fax (415) 243-3651; mac_the_knife@macweek.com.

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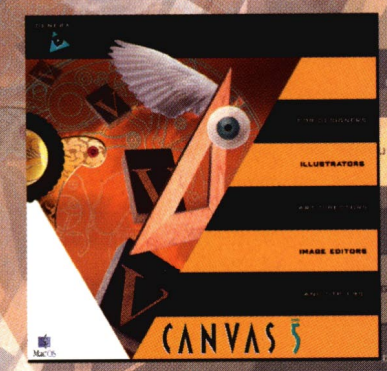

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2. Recognized that Picasso in the garage sale for $100 (it was last auctioned at $50 million).
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